



What are Export Controls?

- Export controls are laws and regulations designed to ensure that certain information, technology, biological and chemical agents and other sensitive items are secure and not employed for purposes contrary to national security or US economic interests.
- Congress passed the first Export Control Act in 1940
- It's within the President's authority to regulate exports. Over the years the President has delegated this regulatory authority to several agencies.
- All institutions of higher learning, including faculty, staff and students, must comply with export laws and regulations.

Regulatory Agencies



At last he had found the Regulatory Guidelines.

U.S. Agencies Responsible for Export Controls



U.S. Dept. of State, Directorate of Defense Trade Control (DDTC)
International Traffic in Arms Regulations (ITAR)



U.S. Dept. of Commerce, Bureau of Industry and Security (BIS)
Export Administration Regulations (EAR)



U.S. Dept. of The Treasury
Office of Foreign Assets Control (OFAC)



U.S. Department of Energy (DOE) & U.S. Nuclear Regulatory
Commission (NRC)



U.S. Department of Homeland Security (DHS), U.S. Customs &
Border Protection (CBP)



International Traffic & Arms Regulations (ITAR)

Governs all military, weapons, and some space related items, technical data on defense articles and defense services.

U.S. Munitions List (USML)

- Category I: Firearms, Close Assault Weapons and Combat Shotguns
- Category II: Materials, Chemicals, Microorganisms, and Toxins
- 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: Vessels of War and Special Naval Equipment
- Category VII: Tanks and Military Vehicles
- Category VIII: Aircraft and Associated Equipment
- Category IX: Military Training Equipment
- Category X: Protective Personnel Equipment
- Category XI: Military Electronics
- Category XII: Fire Control, Range Finder, Optical and Guidance and Control Equipment
- Category XIII: Auxiliary Military Equipment
- 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: Directed Energy Weapons
- Category XX: Submersible Vessels, Oceanographic and Associated Equipment
- Category XXI: Articles, Technical Data and Defense Services Not Otherwise Enumerated





Export Administration Regulations (EAR)

EAR governs the export of most items including those with military and non-military applications such as Dual Use, Deemed Export and EAR99.

Commerce Control List (CCL)

Export Control Classification Number (ECCN) is an alphanumeric designation

Categories

- 0 = Nuclear materials, facilities and equipment
- 1 = Materials, Chemicals, Microorganisms and Toxins
- 2 = Materials Processing
- 3 = Electronics
- 4 = Computers
- 5 = Telecommunications and Information Security
- 6 = Sensors and Lasers
- 7 = Navigation and Avionics
- 8 = Marine
- 9 = Propulsion Systems, Space Vehicles & Related Equipment

Five Product Groups

- A. Systems, Equipment and Components
- B. Test, Inspection and Production Equipment
- C. Material
- D. Software
- E. Technology



Lab Equipment EAR99



Medical Items EAR99



Drones 9A012 or EAR99



Pathogens 1C351 or EAR99



Laptops 5A992



Carbon Fiber 1C210



Office of Foreign Assets Control (OFAC)

OFAC enforces economic and trade sanctions based on U.S. foreign policy and national security goals against embargoes countries and/or prohibited or blocked individuals or entities.



Other countries with non-comprehensive sanctions include; China, Crimea region of Ukraine, Central African Republic, Iraq, Lebanon, Libya, Somalia, South Sudan, Venezuela, Yemen, among others.

Export and Deemed Export

Export = Any Shipment Transmission or transfer of:

- Commodities
- Software
- Technology

Deemed Export Rule – An export of “controlled” technology or source code is “deemed” to take place when it is released to a foreign person in the United States

- Exception is Fundamental Research

What is Fundamental Research?

- **Fundamental Research** – Information arising during or resulting from basic and applied research in science and engineering, the results of which are published and shared broadly in the scientific community.
- **Education** – Information concerning general scientific, mathematical or engineering principles commonly taught in colleges or universities.
- **Public Domain** – Information generally accessible to the public in any form (available at libraries, published widely, in patents, etc.).



Areas of Focus

Export controls can affect different activities including:

- Research, “Deemed-export” Disclosing “Controlled” Data or Technology to a Foreign Nationals on Campus
- Hosting Foreign Visitors/Scholars & International Hires
- Travel Overseas (conferences, teaching courses abroad, etc.)
- International Shipments & Material Transfers
- Technology Transfer (e.g., software)
- International Financial Transactions
- International Collaboration

Export Controls Triggers In Research

- Certain Types of Research
 - Military or Defense Articles and Services
 - High Performance Computing or Encryption Technology
 - Dual Use Technologies
 - Missiles & Missile Technology
 - Chemical/Biological weapons
 - Nuclear Technology
 - Select Agents & Toxins
 - Space Technology & Satellites
- Funding Source (DOD, DOE, Private Companies)
- Publication & Dissemination Restrictions
- Research Restricted to US Persons
- Extreme IT Security Requirements
- Receiving, Storing or Generating CUI (CDI, export-controlled data, etc.)

Controlled Unclassified Information (CUI)



DFARS / NIST / TCP / CMMC

DFARS 252.204.7012 Safeguarding CDI & Cyber Incident Reporting

This clause is incorporated in DOD contracts , it outlines the requirements of safeguarding CDI (category of CUI) and reporting breaches.



NIST (SP) 800-171 National Institute of Standards and Technology (NIST) Special Publication (SP)

The IT Security Standards and Guidelines to protect CUI (CDI & Export Controlled data) in nonfederal systems and organizations, per the requirements under the 7012 clause.



Implement a Technology Control Plan (TCP) & IT Security Environment

To safeguard CDI and other types of export-controlled data.



Cybersecurity Maturity Model Certification (CMMC)

DOD required verification measures of the system implemented by non-federal organizations (Northeastern). Per DFARS Clause 252.204-2019 /2020/2021; Notice NIST (SP) 800-171 Assessment Notice and Requirements & Compliance with CMMC Certification.

What is a TCP?

- A TCP is a written security plan that details procedures designed to eliminate or minimize the risk of unlicensed exports in labs and other research facilities engaged in export-controlled research.
- A TCP will outline expectation and controls such as physical security, IT security and all personnel authorized to participate in export-controlled activities and access export-controlled items and information.
- A TCP will document additional contract and regulation requirements.

The Export Control Staff will work with your research team and other NU administrative units to develop an appropriate TCP if one is required. Keep in mind that a TCP is separate from other lab or research protocols and must be implemented in addition to them.

Where can Controlled Unclassified Information Live?

GCC HIGH

GCC High is a cloud service model that provides a cloud computing solution to a limited number of individuals or organizations that is governed, managed and secured by Northeastern.

SDE

The SDE is a Linux-based HPC cluster available to research projects that require data-security - such as CUI, HIPPA, and other sensitive data.

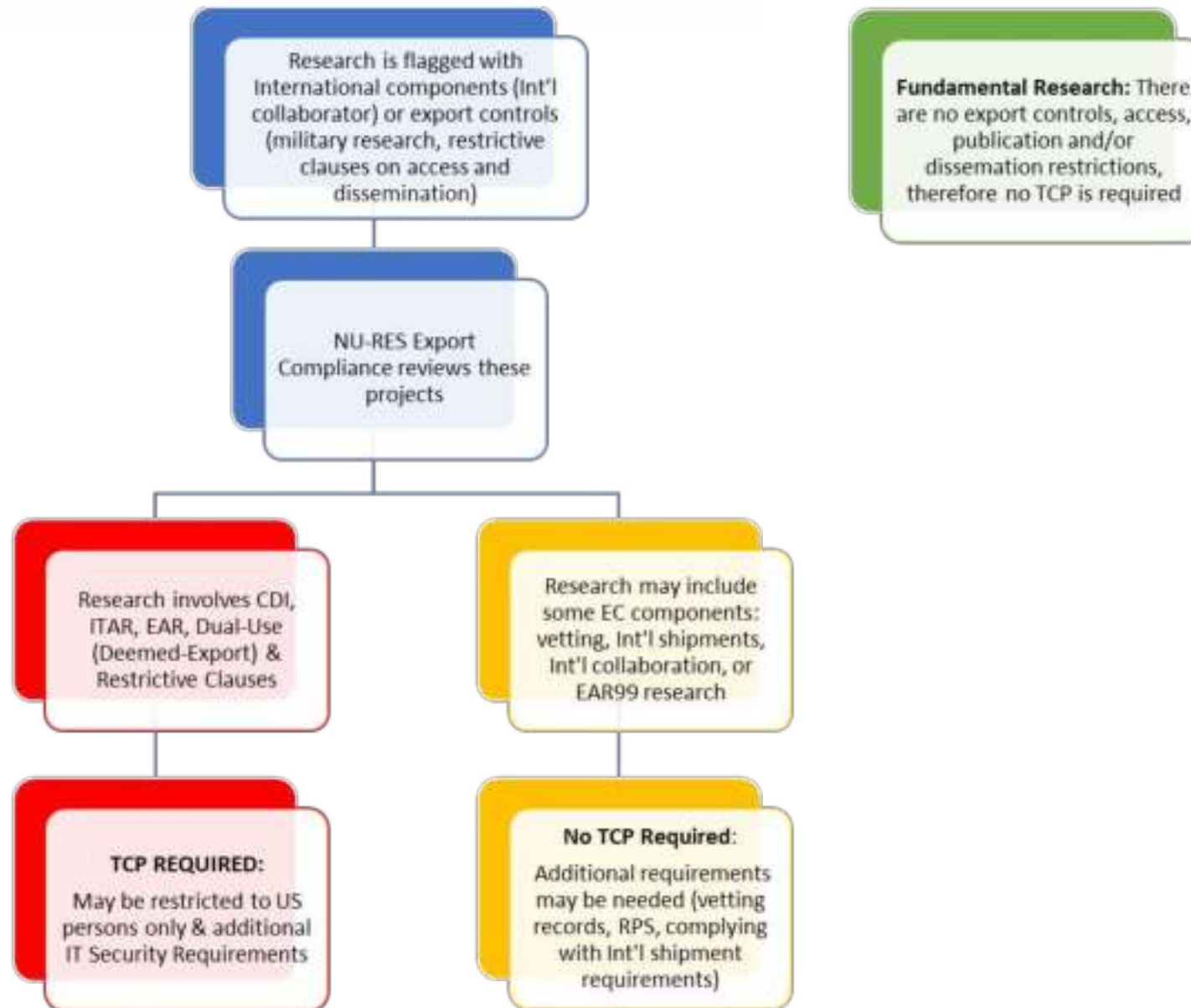
KRI

KRI serves as a secure indoor facility for materials and devices, cybersecurity, additive manufacturing, nanomanufacturing, structural testing, and data analytics, systems modeling and network science.

ECUAS

ECUAS is a secure indoor and outdoor facility where researchers focus on autonomy, cybersecurity and a vast array of EM spectrum technologies.

Export Control Review Process



Impact on Research



Hiring / staffing



Budget



Lab set up
(access controls)



Computing
infrastructure



Publications

Planning for Project Impact

Hiring / staffing

- Participation restrictions: prior approval or licenses may be required for foreign nationals
- Presumption of denial issues

Publications

- Prior approval may be required, could impact student's ability to use for thesis / dissertation

Lab set up

- Layout of lab: ability to restrict and monitor access

Computing infrastructure

- Use of approved devices to work with CUI/CDI/Export Controlled information
- Use of GCC accounts

Budget

- May need to budget for changes to lab, purchase of supplies / equipment
- Not all charged to funding agency, some may need to be discussed internally

Proposal & Pre-award Planning

- RFP / RFA should mention the possibility of CUI, CDI and/or export-controlled data
- Coordinate with NU-RES if you want to justify fundamental research
 - Not a guarantee that the determination will be fundamental research
 - Not fundamental: you will need to comply with security requirements per the contract

Questions?

- Research Compliance Website: <https://research.northeastern.edu/nures/compliance/research-and-regulatory-compliance/export-control/>
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