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Office of Research Protections, Research Security & Trade Compliance

US Export Control Regulations and How They Apply to Universities

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Agenda

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Regulatory Background

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Federal Control Regimes

Classified Information	Export Controls	Controlled Unclassified Information	Select Agent Regulations	DOJ Bulk Sensitive Data Rule
• POTUS & designated agency heads/officials • EO 12356 • NISPOM • Classification Levels: Top Secret, Secret, Confidential	• EAR (Commerce) • ITAR (State) • OFAC (Treasury) • 110 (NRC) • 810 (DOE)	• National Archives and Records Administration (NARA) • Over 120 CUI categories; 20 organizational index groupings • NIST SP 800-171: Network security and data protection regulations for CUI	• USDA • DHHS • Commerce (EAR) • State (ITAR)	• Restricts transferring bulk sensitive US person data including "Omic" data to countries of concern: China, Russia, Iran, North Korea, Cuba, Venezuela

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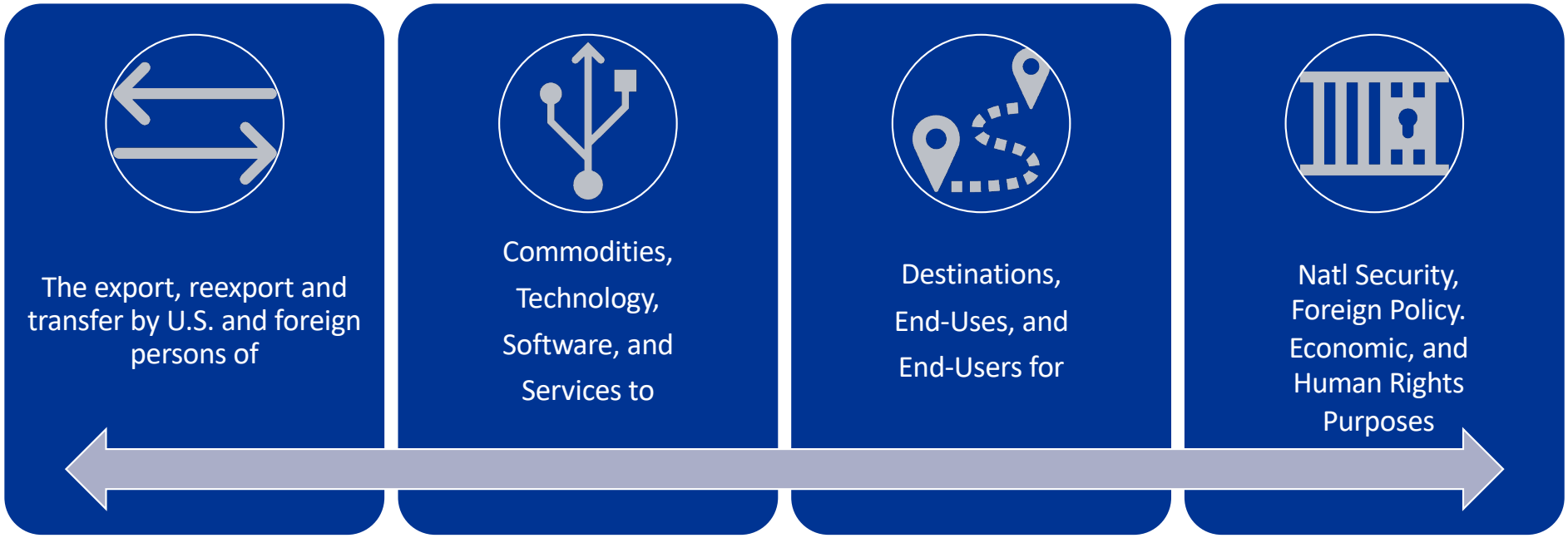
New NIH Restrictions Affecting Exports

- NIH Notice NOT-OD-25-160: Effective October 24, 2025, NIH prohibits researchers from directly or indirectly distributing NIH-funded human biospecimens from US persons to countries of concern (China, Iran, North Korea, Cuba, Venezuela).
  - **Due to the amount of NIH funding at Pitt, it is determined that all biospecimens are affected and are subject to this prohibition.**
- NIH Notice NOT-OD-25-083: Effective April 4, 2025, NIH prohibits access to Controlled-Access Data Repositories (CADRs), including a ban for institutions in specific countries of concern and mandatory, heightened security standards for users, particularly regarding human genomic data.

The U.S. Export Control Regulations are a Series of Regulations Overseen by Multiple Federal Agencies that Control the:



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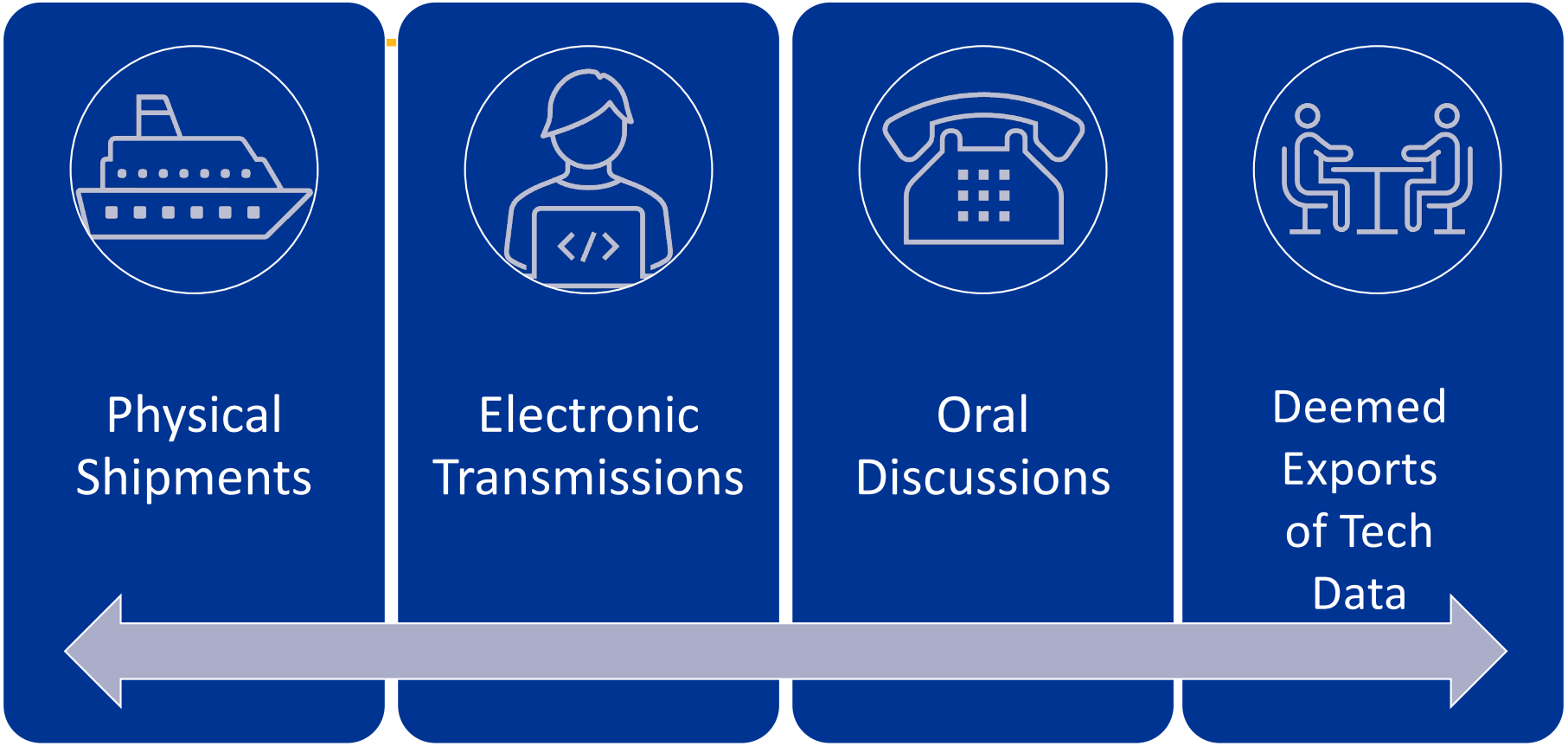
Various Ways We Can Export



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Primary U.S. Export Control Regulations for Universities

- Department of Commerce: Export Administration Regulations (EAR): Dual Use Goods, Commerce Control List, RPS Lists

- Department of State: International Traffic in Arms Regulations (ITAR), Military Items, US Munitions List, RPS Lists

- Department of Treasury: Foreign Asset Control Regulations (FACR), Sanctions Programs, SDN/RPS Lists

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U.S. & Foreign Items Subject to the EAR

- All Items in the U.S., in a U.S. Foreign Trade Zone, or moving in transit through the U.S. from one country to another; and all U.S. origin items wherever located in the world;
- Foreign made commodities that incorporate controlled U.S.-origin commodities;
- Foreign-made commodities that are “bundled” with controlled U.S.-origin software;
- Foreign-made software that is comingled with controlled U.S.-origin software; and
- Foreign-made technology that is comingled with controlled U.S.-origin technology.

Questions That Guide Licensing Decisions

1. What is it and is it subject to the regulations?
2. Where is it going in the world?
3. Who will be receiving and using it?
4. Why do they want/need it and for what purpose?

Catch-All Controls

These broad controls apply to every export regardless of classification:

1. Restricted & Prohibited Parties
2. Highly Sanctioned Countries & Regions
3. Proliferation Activities
4. Military End Uses/Users
5. Anti-boycott
6. Red Flags

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Exclusions to the U.S. Export Regulations

1. **Published:** Generally accessible to the interested public in any form.
2. **Educational Information:** Information released by instruction in a catalog course or associated teaching laboratory of an academic institution.
3. **Patents:** Information that appears in patents or open (published) patent applications available from or at any patent office, unless covered by an invention secrecy order.
4. "Technology" or "Software" that arises during, or results from, **Fundamental Research:** Fundamental research (FR) means research in science, engineering, or mathematics, the results of which ordinarily are published and shared broadly within the research community, and for which the researchers have not accepted restrictions for proprietary or national security reasons.

Fundamental Research and Contracting

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What is Fundamental Research?

- *"'...basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons." - NSDD-189*

- FR can be found in the EAR in section 734.8
- FR can be found in the ITAR in part 120.34
- FR can be found in Department of Energy's regulations in section 810.3

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Fundamental Research Exemption Scope

INCLUDED

- Publication and other transfers of information that results from fundamental research at universities, Federally Funded Research & Development Centers (FFRDC's), and corporations.

EXCLUDED

- Research subject to specific National Security Controls
- Research subject to prepublication restrictions
- Exports of hardware, certain encryption software and technology
- Prohibited end uses and prohibited parties
- Info subject to other control regimes

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General Contracting Tips

1. Federal agency grant terms typically align with Fundamental Research (FR) principles and are widely accepted.
2. Federal contract terms need to be reviewed in their entirety to pick out any undesirable terms.
3. Some widely acknowledged federal troublesome contract clauses include:
    1. 252.204-7000: Disclosure of Information
    2. 252.204-7012: Safeguarding Covered Defense Information and Cyber Incident Reporting
4. Grant and contract announcements sometimes contain information that would lead to restrictions.
5. Identify and review other related agreements to confirm that they will not nullify the FR exemption: CDA/NDA, MTAs, DUAs, etc.
6. Have a process to elevate confirmed problematic language especially in cases where the FR exemption will be nullified.
7. **ORSTC and OSP have processes in place to evaluate non-conforming language.**

Case Study: U.S. vs. Dr. J. Reese Roth

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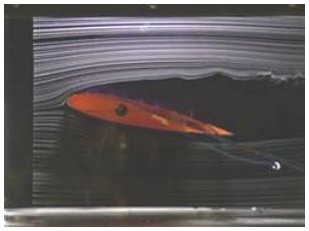
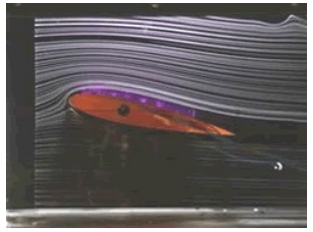
USAF Weapons Project

- In 2004, USAF was seeking to develop advanced technology for unmanned aerial vehicles (UAV) to maintain air dominance.
- USAF funded a R&D project to develop smaller, stealthier, more cost effective UAVs (drones) with fewer parts.
- Plasma physics to be applied to explore theoretical advantages in aeronautical engineering for the next generation UAVs.





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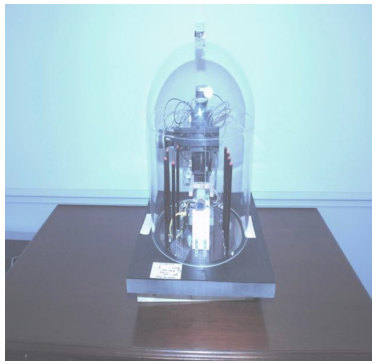
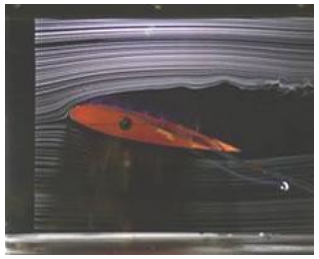
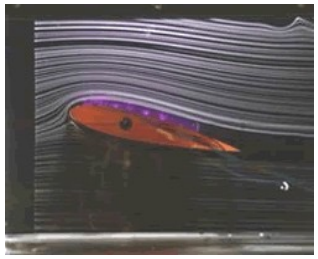
ITAR Technical Data was the Key Focus

- USAF awarded a prime contract with Atmospheric Glow Technologies (AGT) to develop plasma actuator technology for use as flight controls for military UAVs.
- The technical data involved information from scientific tests on plasma actuators intended for military UAVs.







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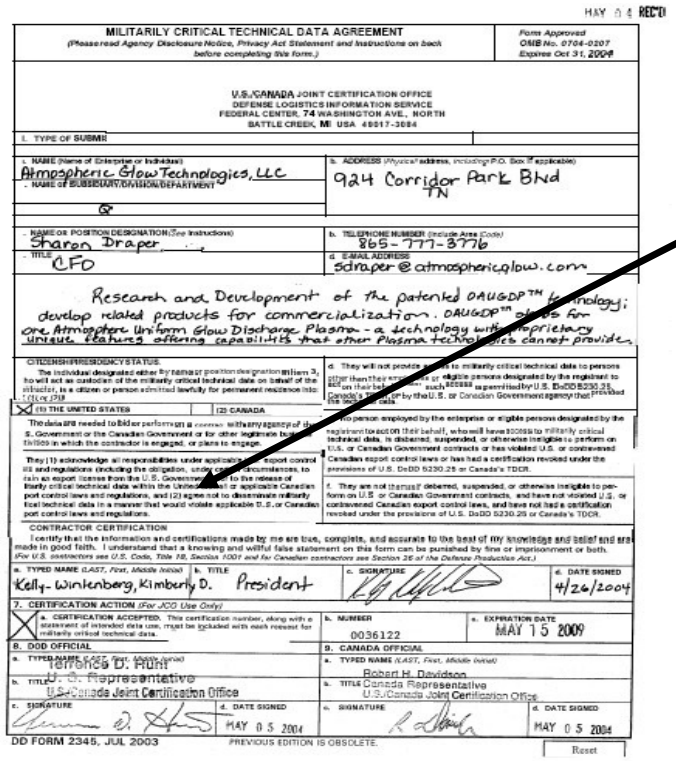
Dr. J. Reese Roth Background

- Dr. Roth was a Professor of Electrical Engineering at the University of Tennessee (UT) and an expert in plasma physics.
- Dr. Roth directed the UT Plasma Sciences Lab and invented a specialized plasma technology ("OAUGDP").
- UT held patent on OAUGDP and licensed the commercial use and development to Atmospheric Glow Technologies (AGT).
- AGT received a Phase I and II STTR contract from the Air Force (USAF) to develop the licensed technology.
- **AGT issued UT a subcontract with flow-down restrictions.**
- **Note: Dr. Roth had a twenty-year history of visits to and partnerships with Chinese Universities (Tsinghua, UESTC & Fudan) along with honorary professorships at two major Chinese universities.**

How did US Export Controls Apply?



MILITARILY CRITICAL TECHNICAL DATA AGREEMENT

(Please read Agency Disclosure Notice, Privacy Act Statement and Instructions on back before completing this form.)

Form Approved OMB No. 0704-0207 Expires Oct 31, 2004

U.S./CANADA JOINT CERTIFICATION OFFICE
DEFENSE LOGISTICS INFORMATION SERVICE
FEDERAL CENTER, 74 WASHINGTON AVE., NORTH
BATTLE CREEK, MI USA 49017-3084

1. TYPE OF SUBMIT

2. a. NAME (Name of Enterprise or Individual): Atmospheric Glow Technologies, LLC
b. ADDRESS (Physical address, including P.O. Box if applicable): 924 Corridor Park Blvd TN

OR

3. a. NAME OR POSITION DESIGNATION (See Instructions): Sharon Draper
b. TELEPHONE NUMBER (Include Area Code): 865-777-3776
- TITLE: CFO
d. E-MAIL ADDRESS: sdraper@atmosphericglow.com

4. Research and Development of the patented DAUGDP™ technology; develop related products for commercialization. DAUGDP™ stands for one Atmospheric Uniform Glow Discharge Plasma - a technology with proprietary unique features offering capabilities that other Plasma technologies cannot provide.

5. CITIZENSHIP/RESIDENCY STATUS
The individual designated either by name or position description in item 3, to act as custodian of the militarily critical technical data on behalf of the enterprise, is a citizen or person admitted lawfully for permanent residence into: (Check one)
[X] (1) THE UNITED STATES [ ] (2) CANADA

6. The data are needed to bid or perform a contract with an agency of the U.S. Government or the Canadian Government or for other legitimate business purposes in which the contractor is engaged, or plans to engage.

7. They (1) acknowledge all responsibilities under applicable U.S. export control laws and regulations (including the obligation, under certain circumstances, to obtain an export license from the U.S. Government prior to the release of militarily critical technical data within the United States or applicable Canadian export control laws and regulations), and (2) agree not to disseminate militarily critical technical data in a manner that would violate applicable U.S. or Canadian export control laws and regulations.

8. a. They will not provide access to militarily critical technical data to persons other than their employees or eligible persons designated by the registrant to act on their behalf unless such access is permitted by U.S. DoDD 5230.25, Canada's TDCR or by the U.S. or Canadian Government agency that provided the technical data.

b. No person employed by the enterprise or eligible persons designated by the registrant to act on their behalf, who will have access to militarily critical technical data, is debarred, suspended, or otherwise ineligible to perform on U.S. or Canadian Government contracts or has violated U.S. or contravened Canadian export control laws or has had a certification revoked under the provisions of U.S. DoDD 5230.25 or Canada's TDCR.

c. They are not themself debarred, suspended, or otherwise ineligible to perform on U.S. or Canadian Government contracts, and have not violated U.S. or contravened Canadian export control laws, and have not had a certification revoked under the provisions of U.S. DoDD 5230.25 or Canada's TDCR.

CONTRACTOR CERTIFICATION
I certify that the information and certifications made by me are true, complete, and accurate to the best of my knowledge and belief and are made in good faith. I understand that a knowing and willful false statement on this form can be punished by fine or imprisonment or both. (For U.S. contractors see U.S. Code, Title 18, Section 1001 and for Canadian contractors see Section 26 of the Defense Production Act.)

a. TYPED NAME (LAST, First, Middle Initial)	b. TITLE	c. SIGNATURE	d. DATE SIGNED
Kelly-Winkenberg, Kimberly D.	President		4/26/2004

7. CERTIFICATION ACTION (For JCO Use Only)
[X] a. CERTIFICATION ACCEPTED. This certification number, along with a statement of intended data use, must be included with each request for militarily critical technical data.
b. NUMBER: 0036122
c. EXPIRATION DATE: MAY 15 2009

8. DOD OFFICIAL	9. CANADA OFFICIAL
a. TYPED NAME (LAST, First, Middle Initial): Terrence D. Hunt	a. TYPED NAME (LAST, First, Middle Initial): Robert H. Davidson
b. TITLE: U.S. Representative U.S./Canada Joint Certification Office	b. TITLE: Canada Representative U.S./Canada Joint Certification Office
c. SIGNATURE	c. SIGNATURE
d. DATE SIGNED: MAY 05 2004	d. DATE SIGNED: MAY 05 2004

DD FORM 2345, JUL 2003 PREVIOUS EDITION IS OBSOLETE. Reset

….(1) acknowledge all responsibilities **under applicable U.S. export control law and regulations (including the obligation, under certain circumstances,** to obtain an export control license from the U.S. Government prior to the release of militarily critical technical data within the United States . . . and (2) agree **not to disseminate militarily critical data in a manner that would violate applicable U.S. or Canadian export control laws and regulations**

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J. Reese Roth Case Facts

1. UT accepted the AGT subcontract that contained ITAR restrictions and advised Dr. Roth of these restrictions, i.e. could not export or deemed export any technical data.
2. AGT and Dr. Roth agreed to include a Chinese foreign national graduate student in what they knew was a USAF R&D project covered by export control laws.
3. AGT and Dr. Roth willfully disclosed what he knew was export controlled USAF Technical Data to both a Chinese and Iranian graduate student (deemed export).
4. Dr. Roth willfully took and sent what he knew was export controlled USAF Technical Data to China (physical export).

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J. Reese Roth Case Conclusion

- In September 2008, Dr. Roth was convicted after a jury trial in U.S. District Court in Knoxville, of conspiracy, wire fraud, and 15 counts of exporting “defense articles and services” without a license
- On January 18, 2012, John Reece Roth began serving a four-year prison sentence. He was released after serving 3 ½ years
- U.S. Attorney Bill Killian said, “This sentence communicates the importance of export compliance to academia and industry, especially in the research and development communities. It underscores the criminal consequences of non-compliance and what happens to those who knowingly and willfully violate export control laws”.

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Deemed Exports and Foreign Nationals

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What Exactly is a Deemed Export?

1. In layman's terms, a deemed export is a transfer of controlled technology that occurs within the U.S. to a foreign person.
2. A foreign person (foreign national) is an individual who is NOT a U.S. citizen, green card holder, or protected political refugee/asylee.

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Deemed Export Risk

- Most transfers of technology to foreign nationals in the U.S. do not require an export license.
- The EAR and ITAR have different criteria for determining deemed export licensing.
- Higher risk activities include anything ITAR, 500/600 series EAR items, restricted research projects, proprietary information handling.
- I-129 Deemed Export reviews for certain visas
- Hiring practices need to be anti-discriminitory

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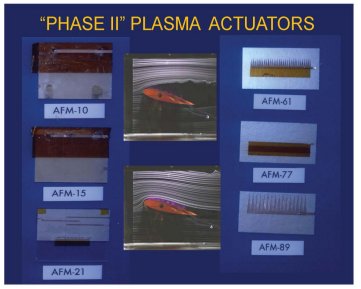
ITAR Technical Data “Release” Examples

FLIR Quark 640 25mm



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EAR Technology Definitions

- **“Production”**

All production stages, such as: product engineering, manufacture, integration, assembly (mounting), inspection, testing, quality assurance.

- **“Development”**

All stages prior to serial production, such as: design, design research, design analyses, design concepts, assembly and testing of prototypes, pilot production schemes, design data, process of transforming design data into a product, configuration design, integration design, layouts.

- **“Use”**

“Operation, installation (including on-site installation), maintenance (checking), repair, overhaul and refurbishing” of controlled items.

Deemed Exports, Biologicals and Chemicals under the EAR

- BIS has advised that deemed export licenses are not required for foreign nationals accessing a controlled pathogen, toxin or genetic element of a controlled pathogen when:
  1. technology arises during or results from fundamental research; or
  2. the technology to be shared does not meet the definition of “development” or “production” even if the research is not fundamental
- Most research and academic activities on university campuses will not require deemed export licenses for foreign national access and use of controlled biologicals and chemicals
- **Greater scrutiny is needed in cases where the research is controlled, i.e. non-fundamental research**

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EAR Deemed Export Example

Question: I have Iranian, Chinese and Russian students using mass spectrometers (ECCNs 3A233, 3E201) and other EAR controlled equipment in my laboratory. Do I need a deemed export license before they can use it?

Answer: Not usually. For most EAR equipment (and related technology) found in our laboratories, a deemed export license is not needed as long as the 6 part definition of "Use" is not achieved.

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EAR Deemed Export Example

Question: I oversee students who access EAR controlled chemicals in one laboratory and biological samples containing EAR controlled bacteria and toxins in another. Some of my students are from China, Egypt, and South Korea. They use the chemicals and biological samples within approved fundamental research projects and academic courses. Do I need deemed export licenses for each foreign national student before they can use these items?

Answer: No. For EAR controlled biologicals and chemicals, a deemed export license is not needed as long as they are used within Fundamental Research Projects, or other open Academic Coursework/Activities.

Screening Foreign Collaborators and Other Third Parties

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What are Restricted Party Lists?

- The U.S. maintains lists of individuals and entities that have been denied, debarred, sanctioned or prohibited export privileges or with whom U.S. citizens may not do business with.
- It is important to have a process to screen foreign collaborators against these lists as part of proposal processes.
- Equally important is to have a process to evaluate possible matches and how to handle confirmed matches.
- Pitt has a license to use a screening tool from Descartes called Visual Compliance that screens against all applicable lists.

When Should an RPS be Done?

- All foreign collaborations regardless of reason
- Foreign shipments
- Procurement vendors
- I-129 Deemed Export reviews for some visas
- Foreign sponsors or hosts of conferences
- Foreign donors (philanthropic)
- Long-term institutional visitors

International Shipments

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International Shipping Process

1. Evaluate **the item** by determining the jurisdiction & classification
2. Evaluate **location** especially if to a highly sanctioned or embargoed country or region
3. Evaluate **end-user** by conducting a Restricted Parties Screening (RPS)
4. Evaluate **end-use** to identify any proliferation or military adaptation

Foreign Shipment Facts

- Foreign shipments represent one of the highest export risk items at universities due to volume
- It is very easy for federal agents to analyze shipment data through federal electronic records
- Centralized shipping systems are better equipped to manage the risk associated with foreign shipments- Pitt utilizes ProShip.
- There have been multiple university related federal settlements related to unlicensed foreign shipments

Case Study: Princeton Settlement Agreement

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Case Background and Settlement

- Princeton University participated in a multi-site NIH study that required a central site to act as a repository for various strains and recombinants of animal pathogens.
- The terms and conditions required Princeton to create and maintain this repository and make samples available to researchers around the world.
- Between 2013 and 2017, Princeton sent 37 shipments of samples containing EAR controlled materials to foreign locations (China, UK, Canada) without first obtaining an export license.
- Princeton self-disclosed these violations and was fined $54,000 (twice the value of the shipments) and in 2021 agreed to an internal and external audit of its export compliance program.

International Travel

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Foreign Travel: Questions to Ask

1. • **Location:** Where are you going?
2. • **Items:** What are you taking?
3. • **Interactions:** Who will you be meeting/collaborating with?
4. • **Activities:** What will you be doing?

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Foreign Travel Considerations

- All hand-carried items leaving the country are considered exports!
- Many of the same principles for foreign shipments apply to foreign travel.
- In addition to export controls, travelers need to know personal security, IT security, and availability and use of devices (loaner devices especially).
- Identification of travel involving sanctioned countries and regions is important to catch BEFORE it occurs.
- ORSTC works closely with Global Operations on matters related to foreign travel.

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Remote Education & Research

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Remote Education and Research

- **Lower Risk situations include:**

- Remote education (especially non-STEM) from a non-US location using a learning platform like Coursera that applies IP blockers for comprehensively sanctioned locations.
- Foreign students having an approved US visa in the US taking courses in-person or via remote platforms.

- **Higher Risk situations include:**

- Enrolled students “normally resident” in a highly embargo/sanctioned country or region taking a course from a non-US location, especially those without US visas.
- Deferred or interested students “normally resident” in a highly embargo/sanctioned country or region in a non-US location conducting formal or informal research or education under the direction or support of an institutional faculty member.
- Remote foreign students without a US visa who appear on a restricted party list.
- Remote research involving a person “normally resident” in a highly embargo/sanctioned country or region including any items (technology or tangible) that may need to be exported to that person.

High and Low Risk Activities

LOW

- ✓ Activities Related to Visa Applications
- ✓ Program/Course Applications & Enrollment Activities
- ✓ General Correspondence on Public Information
- ✓ Publications using information already in existence

HIGH

- ✗ Collaborative research, including transfer of things not in public domain
- ✗ In-country scientific meetings & contests, (Iran, Cuba)
- ✗ Distance learning (outside of US), or anything involving a “service” (Iran)
- ✗ Interactions with a restricted party without clearance from ORSTC

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Resources

- Export Controls Management Plan
- US Export Regulations
- Controlled Unclassified Information
- DOJ Bulk Sensitive Data Rule
- Dual Use Research of Concern
- Select Agent Regulations
- University of Pittsburgh Travel Guidance (Global Operations)
- University of Pittsburgh Shipments (ORSTC)
- Remote Learning and Research

Office of Research Protections, Research Security and Trade Compliance

THANK YOU!

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Email Address: Researchsecurity@pitt.edu