Compliance with Export Controls and Technology Control Plans

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Export Compliance Officer

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Agenda

- Why Compliance Matters – Risks and Responsibilities

- Export Controls are Complex
  - Understanding the Regimes and Agencies we must comply with

- What processes we are putting in place at SAO to comply
  - Re-identifying export controlled activities
  - Deemed exports - Obtain licenses
  - Technology Control Plan
There Are Many US Export Rules We Need to Comply with

- TECHNOLOGY CONTROLS on hardware, software, services and technical data
- DENIED PARTIES - We may not sell to listed terrorists, nationals of embargoed countries, or entities involved in Weapons of Mass Destruction (WMD)
- COUNTRY EMBARGOES
- REFUSAL TO PARTICIPATE in Arab League Boycott of Israel
- EXPORT RULES – export clearance
- CUSTOMS - valuation, classification, taxes
Export Compliance Program

- We must comply with several regulations and guidelines
  - International Traffic in Arms Regulations (ITAR) (State)
  - Export Administration Regulations (EAR) (Commerce)
  - Foreign Trade Regulations (FTR) (Commerce)
  - US Customs requirements (Treasury)
  - Foreign Assets Control Regulations (FACR) (Treasury)
  - National Industrial Security Program Operating Manual (NISPOM)

- Our program is based on “best practice” guidelines issued by the US Departments of State, Commerce and Treasury published on their websites for several years. Fines are mitigated by 50% if you have a compliance program.
Elements of an Export Compliance Program

- Institutional Commitment
- Assignment of Responsibility to Qualified Persons
- Development of SOPS to Ensure Export Licenses Are Obtained and Managed
- Technology Control Plan to Control Deemed Exports
- Provide Training and Keep Updated about Regulations
Agencies that Regulate Controlled Items, Software or Data

Department of State, Directorate of Defense Trade Controls
- Regulates defense articles, subassemblies, parts and technology, including spacecraft, satellite-related activities and infrared items

Department of Commerce
Bureau of Industry and Security
- Regulates “dual use” commercial items, production equipment, software and technology. These are items that have a strategic purpose with respect to national security, foreign policy, missile technology, proliferation, regional stability and crime control

Bureau of Census
- Collects trade statistics and manages export clearance for other agencies

Department of the Treasury, Office of Foreign Assets Controls
- Issues general and specific licenses for all exchanges and financial transactions with sanctioned countries
Typical Tangible Items that May Need an Export License

- The items that are regulated are on the US Munitions List or Commerce Control List:
  - Space or ground-based instrumentation mounted on or used in spacecraft, satellites, and data or software related to their propulsion and control systems
  - Focal plane arrays and infrared detectors
  - Deformable mirrors larger than 1 m, space-qualified adaptive optics
  - Radiation hardened electronics, digital signal processors, A-D converters, and recording equipment such as atomic clocks
  - Rockets that travel 300 km with a payload of 500 kg
Export Control Reform

US Dept. of Commerce:
Bureau of Industry and Security

New Commerce Munitions Division handles licenses for:
New “600 series”
New “500 series”
(License for export of everything else)

US Dept. of State:
Directorate of Defense Trade Controls
(Licenses for export and temporary import of defense articles)
Positive list for spacecraft and satellites

2014 Satellites “500 series”
Less strategic platforms “600 series” spacecraft
ITAR parts and Components “600 series”
Results

- Keep only most **strategic items** on the US Munitions List – make it a positive list
  - Each ITAR category is being reviewed from its broad definitions to being more specific of what will remain
  - Rolling Rollout
- Move **some spacecraft and satellites** back to Commerce Control List
  - but maintain ITAR list of proscribed countries
  - Infrared - still pending
- Move less strategic military items and parts and components to Commerce Control List
  - but maintain ITAR list of proscribed countries
Classification Process at SI

- Develop expertise ITAR and EAR classification in IR, focal plane arrays, satellites, ground and space-based instrumentation
- Create a Classification Committee - Relook
  - Chandra, TEMPO, SWEAP, ARCUS, JWST
- Educate PIs to know what items are on controlled list
- Involve PMs and Purchasing
- Request sponsors to classify their data to new regs
ECO
Identify research, instruments or data that might be controlled

Look at what remained on Cat XV a

Look at Cat XV e. Is it a payload that is controlled?

Is it ITAR Controlled?

Is STA eligible?

Non-US person signs ITAR NDA. Permit access.

Restrict all non-US persons who are not FTEs.

Apply for license for eligible person?

License approved?
**Spacecraft, including satellites and space vehicles, whether designated developmental, experimental, research, or scientific, or having a commercial, civil, or military end-use, that:**

*(1) Are specially designed to mitigate effects (e.g., scintillation) of or for detection of a nuclear detonation;

*(2) Autonomously track ground, airborne, missile, or space objects in real-time using imaging, infrared, radar, or laser systems;

*(3) Conduct signals intelligence (SIGINT) or measurement and signatures intelligence (MASINT);

*(4) Are specially designed to be used in a constellation or formation that when operated together, in essence or effect, form a virtual satellite (e.g., functioning as if one satellite) with the characteristics or functions of other items in paragraph (a);

*(5) Are anti-satellite or antishipcraft (e.g., kinetic, RF, laser, charged particle);

*(6) Have space-to-ground weapons systems (e.g., kinetic or directed energy);
Cat XV  Remote sensing

- See NASA checklist - #7*(7) Have any of the following electro optical remote sensing capabilities or characteristics:

  - (i) Electro-optical visible and near infrared (VNIR) \((i.e., 400\text{nm to }1,000\text{nm})\) or infrared \((i.e., \text{greater than }1,000\text{nm to }30,000\text{nm})\) with less than 40 spectral bands and having a clear aperture greater than 0.35 meters;

  - (ii) Electro-optical hyperspectral with 40 spectral bands or more in the VNIR, short-wavelength infrared (SWIR) \((i.e., \text{greater than }1,000\text{nm to }2,500\text{nm})\) or any combination of the aforementioned and having a Ground Sample Distance (GSD) less than 30 meters;

  - (iii) Electro-optical hyperspectral with 40 spectral bands or more in the midwavelength infrared (MWIR) \((i.e., \text{greater than }2,500\text{nm to }5,500\text{nm})\) having a narrow spectral bandwidth of DI less than or equal to 20nm full width at half maximum (FWHM) or having a wide spectral bandwidth with DI greater than 20nm FWHM and a GSD less than 200 meters; or

  - (iv) Electro-optical hyperspectral with 40 spectral bands or more in the longwavelength infrared (LWIR) \((i.e., \text{greater than }5,500\text{nm to }30,000\text{nm})\) having a narrow spectral bandwidth of DI less than or equal to 50nm FWHM or having a wide spectral bandwidth with DI greater than 50nm FWHM and a GSD less than 500 meters;

**Note 1 to paragraph (a)(7):** Ground Sample Distance (GSD) is measured from a spacecraft’s nadir \((i.e., \text{local vertical})\) position.

**Note 2 to paragraph (a)(7):** Optical remote sensing spacecraft or satellite spectral bandwidth is the smallest difference in wavelength \((i.e., \text{DI})\) that can be distinguished at full width at half maximum (FWHM) of wavelength l.
Other characteristics

- *(8)* Have radar remote sensing capabilities or characteristics (*e.g.*, active electronically scanned array (AESA), synthetic aperture radar (SAR), inverse synthetic aperture radar (ISAR), ultra-wideband SAR), except those having a center frequency equal to or greater than 1 GHz but less than or equal to 10 GHz and having a bandwidth less than 300 MHz;

- *(9)* Provide Positioning, Navigation, and Timing (PNT) signals;

  **Note to paragraph (a)(9):** *This paragraph does not control a satellite or spacecraft that provides only a differential correction broadcast for the purposes of positioning, navigation, or timing.*

- *(10)* Provide space-based logistics, assembly, or servicing of any spacecraft (*e.g.*, refueling) and have integrated propulsion other than that required for attitude control;

- *(11)* [Reserved]

- *(12)* Provide for sub-orbital, Earth orbital, cis-lunar, lunar, deep space (*i.e.*, space beyond lunar orbit), and planetary spaceflight, or in-space human habitation, which have integrated propulsion other than that required for attitude control; or
(b) Ground control systems or training simulators, specially designed for telemetry, tracking, and control (TT&C) of spacecraft in paragraph (a) of this category.

- Note to paragraph (b): Parts, components, accessories, attachments, equipment, or systems that are common to ground control systems or training simulators controlled in this paragraph and those that are used for spacecraft not controlled in paragraph (a) of this category are subject to the EAR.
Specially designed for military application, or GPS receiving equipment with any of the following characteristics, and specially designed parts and components therefor:
DEEMED EXPORTS - Many countries are eligible for license exception Strategic Trade Area – must get the non US person to sign an agreement

- Argentina, Europe, Japan, Australia, New Zealand, South Korea

- No “Service” license requirement

- Di Minimis
Example – SWEAP Technology Release Plan

- Need to determine license requirements
  - Spacecraft – ITAR
  - Faraday Cup
  - Solar Probe Analyzers (SPAN)

- Need to inform me of
  - Foreign procurement and services
  - Non-US collaborators that you will be exchanging data so that I can screen in advance
  - Meetings with NASA or APL where ITAR-controlled data will be exchanged
Export License Decisions for Meetings, exports, or procurement

Who is receiving it?
- We need to check the name against the government denial lists

Where is it going?
- Is the item going internationally, or to a US possession like Puerto Rico?
- Make sure the country is not subject to trade restrictions (e.g., Cuba, Iran, North Korea, Sudan and Syria)

Make sure all activities comply with the license conditions
- Equipment, dollar value, parties involved, return, and reporting to USG.
<table>
<thead>
<tr>
<th>HARDWARE EXPORTS AND DESCRIPTION</th>
<th>RESPONSE</th>
<th>COMMENTS</th>
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<tbody>
<tr>
<td>1. Name of Program</td>
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<tr>
<td>2. PI/PM</td>
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<tr>
<td>PIPM email and phone</td>
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<td>3. Date of Planned Export</td>
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<td>4. Date it needs to be there</td>
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<td>5. Type of equipment</td>
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<td>6. Location of equipment now</td>
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<tr>
<td>7. Permanent or Temporary export</td>
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<td>8. If temporary, when is it coming back?</td>
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<tr>
<td>9. Has property transfer form been completed?</td>
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<td>10. Controlled under ITAR or EAR?</td>
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<tr>
<td>11. What is ECCN/ITAR Category?</td>
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<tr>
<td>12. Does it need a license? (ECO)</td>
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<td>13. If yes, has license been obtained? (ECO)</td>
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<tr>
<td>14. Check Denied Persons List and country (ECO)</td>
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(sample export checklist)
Next Steps:
TECHNOLOGY CONTROL PLAN
Non-US Person Controls

- Commitment by Institution
- Commodity jurisdiction and classification
- Physical security
- Information security
- Purchasing controls
- Project personnel requirements
Next Steps:

Non-US Person Controls

- Have records that ECO has screened all names against denial lists
  - *Make it an on-going process – facility officers, Fellowship Coordinator, HR, Procurement, SPP*

- Obtain from those who are eligible (from eligible country):
  - *Letter of Assurance for Technology and Software Restricted that covers EAR technology*
  - *ITAR information and services from NASA/APL – must be marked*

- Those persons not eligible - Verify that those persons are isolated from
  - *Export-controlled activities and lab areas/offices*
  - *IT Networks that are not approved*
  - *Be able to prove it*
Physical security

- First floor – wear badges
- Do not let unknown persons “piggy back” thru locked doors into labs
- If you do not recognize someone, ask them if they are an SI/SAO Employee
- Must lock the labs if ITAR-controlled equipment is being used or stored.
Commodity jurisdiction and classification

- Each activity needs to be considered and classified
  - Procurement – check if any non-US involvement
  - Services performed overseas
  - Webinars with NASA and APL
Deemed Export
work with non-US persons in US

- We can use an ITAR exemption if
  - Our employee or person is a full-time employee of an institute of higher learning, or
  - He or she a U.S. person (they are permanent resident)
  - By request to the DDTC, if the program is multi country where NASA is the sponsor and the exemption will replace many licenses

- Eligible countries (Europe, Canada, Japan, Australia, New Zealand, sometimes South Korea)
Non-Disclosure Agreement – Letter of Assurance

for

Non-US “SAO-Affiliated Person”*

To Permit Access to EAR-Controlled

“Technology and Software Under Restriction” (TSR)

or for

Specific International Traffic in Arms Regulations Export License

I, [name of non-US person], acknowledge and understand that certain research or technical data related to a controlled technology or software per the Commerce Control List of the Export Administration Regulations (15 CFR Parts 730 – 774) to which I may have access and or is disclosed to me in my affiliation with Smithsonian Astrophysical Observatory is subject to export controls and is permitted by license exception TSR “Technology and Software Under Restriction.”

The controlled research technology, data or software may not be disclosed to others without permission by my advisor/supervisor. Such data or software will be marked “export controlled – TSR.” These controls are related primarily to CCDs, adaptive optics, deformable mirrors, high speed processors, rad hardened electronics, infrared technology, instrumentation or encryption controlled by the U.S. Department Commerce, Bureau of Industry and Security.

I also acknowledge and understand that should I inadvertently receive controlled data or software for which I have not been granted access authorization by the U.S. Department Commerce, Bureau of Industry and Security, I will report such unauthorized receipt and acknowledge the transfer to be a violation of U.S. Government regulations. (Similar items and technology as above that are “space qualified” may controlled as a ‘defense article” by the U.S. Department of State, Directorate of Defense Trade Controls requires a specific export license and to obtain such a license, I will be requested to provide information, such as a passport and CV prior to any data release).
Group B Countries

License Exception: Supplement No. 1 to Part 740-page 1
Export Administration Regulations: Bureau of Industry and Security February 28, 2013

Country Group B

Countries
Afghanistan
Albania
Algeria
Andorra
Angola
Antigua and Barbuda
Argentina
Aruba
Australia
Austria
The Bahamas
Bahrain
Bangladesh
Barbados
Belgium
Belize
Benin
Bhutan
Bolivia
Bosnia & Herzegovina
Botswana
Brazil
Brunel
Bulgaria
Burkina Faso
Burundi
Cameroon
Canada
Cape Verde
Central African Republic
Chad
Chile
Colombia
Comoros
Congo (Democratic Republic of the)
Congo (Republic of the)
Costa Rica
Cote d’Ivoire
Croatia
Curacao
Cyprus
Czech Republic
Denmark
Djibouti
Dominica
Dominican Republic
Ecuador
Egypt
El Salvador
Equatorial Guinea
Eritrea
Estonia
Ethiopia
Fiji
Finland
France
Gabon
Gambia, The
Germany
Ghana
Greece
Grenada
Guatemala
Guinea
Guinea-Bissau
Guyana
Haiti
Honduras
Hong Kong
Hungary
Iceland
India
Indonesia
Ireland
Israel
Italy
Jamaica
Japan
Jordan
Kenya
Kiribati
Korea, South
Kosovo
Kuwait
Latvia
Lebanon
Lesotho
Liberia
Lithuania
Luxembourg
Macedonia, The
Former Yugoslavia
Madagascar
Malawi
Malaysia
Maldives
Mali
Malta
Marshall Islands
Mauritania
Mauritius
Mexico
Micronesia, Federated States of
Monaco
Montenegro
Morocco
Mozambique
Namibia
Nauru
Nepal
Netherlands
New Zealand
Nicaragua
Niger
Nigeria
Norway
Oman
Pakistan
Palau
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Qatar
Romania
Rwanda
Saint Kitts & Nevis
Saint Lucia
Saint Vincent and the
Grenadines
Samoa
San Marino
Sao Tome & Principe
Saudi Arabia
Senegal
Serbia
Seychelles
Sierra Leone
Singapore
Sint Maarten (the Netherlands)
Slovakia
Slovenia
Solomon Islands
Somalia
South Africa
South Sudan
Spain
Sri Lanka
Suriname
Swaziland
Sweden
Switzerland
Taiwan
Tanzania
Thailand
Timor-Leste
Togo
Tonga
Trinidad & Tobago
Tunisia
Turkey
Tuvalu
Uganda
United Arab Emirates
United Kingdom
United States
Uruguay
Vanuatu
Vatican City
Venezuela
Western Sahara
Yemen
Zambia
Zimbabwe
New – Export Control Reform – Favorable Countries

- Software integration with spacecraft – source code – might be ITAR or “600” series controlled

- Favorable countries for “600 series” spacecraft
  - Canada (no license required)
  - Europe
  - Japan
  - “Down under” - Australia/New Zealand
Facilities Controls:
Best Practices

- Control access to EAR/ITAR computer and storage areas - escorted
- Procedures – clean desk, locked offices
- Badges and Sign In
- Labs – dual controls
If SI Research Center Needs a Foreign–National License

I need to include their
  ◦ resume
  ◦ Passport
  ◦ Visa
  ◦ Description of technical data that they require access to.

Records
  ◦ When the license is approved, they need to sign an NDA
Visits by Foreign Scientists

- Check their name against Denial list in advance
  - www.mkdenial.com
- Ensure they are escorted at all times
- Keep them off Floors 1 & 3 if not required to be there
- Watch for inappropriate visitor behavior
  - Wandering visitors
  - Questions about topics that are not the scope of their visit, particularly if the research is cutting edge or export-controlled
  - Using photographic or recording equipment
  - Adding unannounced persons at the last minute to a pre-planned visit
Data Controls: Best Practices

- Separate domain for ITAR data
- Encrypted emails/FTP transmissions
- Disclaimer to not have ITAR data in emails
- Track EAR/ITAR data distribution and destruction
- iCloud hosting and Backups – in US
- Mobile device Policy for Laptops and portable drives
“Presentations, Documents, etc. must be marked “EAR - ITAR controlled if they contain technical information which could be used to replicate, design, or build similar hardware / software.

For example, the following would need export control markings:

- Mechanical schematics
- Detailed proposals or statement of work
- Design guides / specs
- Functional diagrams showing a detailed process
- Algorithm descriptions
- Written descriptions of how a change is being implemented, and/or, why we decided to make a change
License Management

- Ensure that the scope and parties are the same
- Stay within the license time-frame – 4 years to 10 years
- Amend the license when facts change
Records and Reporting

- Check license conditions called “Provisos”
- Make sure we comply – sign NDA, keep on file
- Maintain records for 5 years
- Who has access to item/data
- How is it secured?
- Technology Control Plan- must be signed and audited
What if there is a violation?

- Contac the ECO. Will work with OGC to self-disclose, as prescribed in the ITAR or EAR, when appropriate.

- The agency will look for
  - Written procedures
  - Training
  - Follow-up Corrective Action

  - Penalties or fines
    - If a license *could* be obtained
    - If it was intentional