UNCLASSIFIED

Defense Technology Security Administration

POLICY

"ENSURING THE EDGE"

Farnborough

July 2018

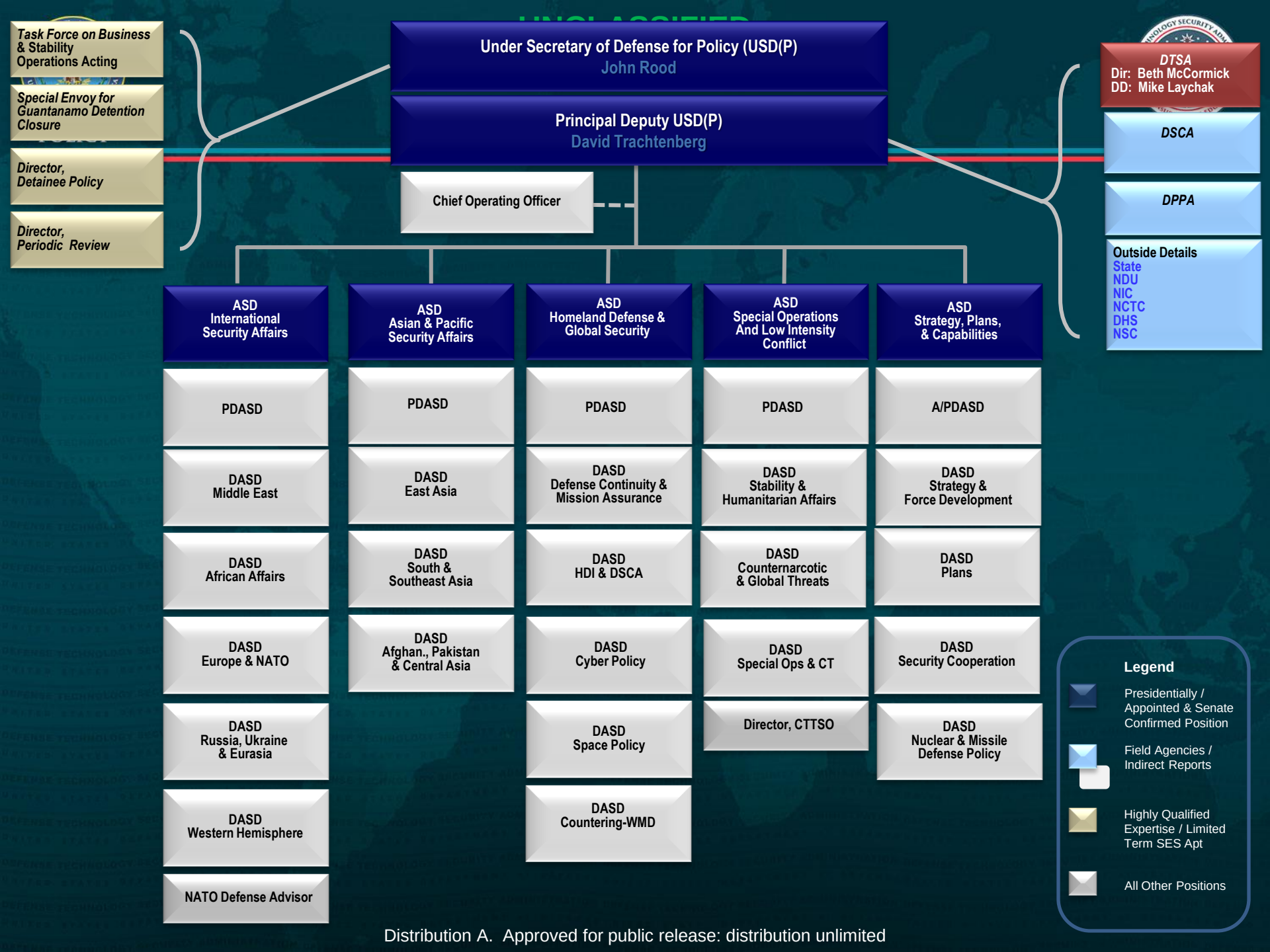
Presented by Rizwan "Riz" Ramakdawala

POLICY

Mission and Vision Statement

Mission: Identify and mitigate national security risks associated with the international transfer of advanced technology and critical information in order to maintain the U.S. warfighter's technological edge and support U.S. national security objectives

Vision: Be the U.S. Government's premier experts in technology and information security, safeguarding the U.S. qualitative military edge while enhancing foreign partners' capabilities



Defense Technology Security Administration (DTSA)

POLICY

Beth McCormick
Director

Mike Laychak
Deputy Director

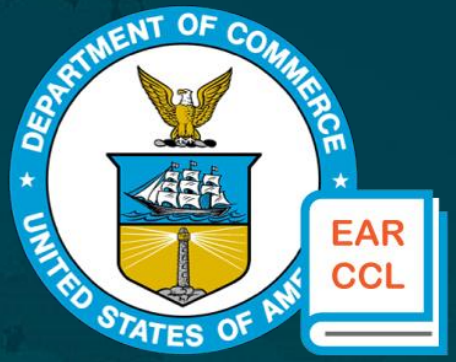
Licensing Directorate	Technology Directorate	Policy Directorate	Technology Security & Foreign Disclosure Office	International Security Directorate	Management Directorate
•License Reviews •Commodity Jurisdictions •Voluntary & Directed Disclosures •Regulations	•Air, Land and Sea •Electronics and Sensors •Space and Missiles	•Regional Policy •Technology Security Assessment & Assistance •Bilateral & Multilateral Negotiations •Outreach & Liaison •Strategic Analysis •End-User & Entity Review •Patent Security Review	•ATTR SSG Secretariat •Releases in Principle / Specific •DoD TSFD Process Oversight •ATTR SSG TSFD Policies	•Secretariat NDPC •FG Disclosure Policy •Security Surveys •General Security Agreement •NATO Security Policy •Foreign Personnel Assignment Policy •Monitor International Security Program •International Security Training Oversight	•Finance •Administration •Contracts •Human Capital •Security •Info Technology Integration

UNCLASSIFIED

POLICY

DoD's Role in Technology Transfers Authorized by Other USG Agencies

Arms Export Control Act
(Munitions List)
Foreign Assistance Act
(Govt-to-Govt)



Export Administration Act
(Dual-Use and some Munitions Items)
U.S. Patent & Trademark Office
(Secrecy Orders)

Atomic Energy Act
("Special Nuclear Materials")

Foreign Investment & Security Act
(Acquisition of U.S. Companies by Foreign Entities)

Atomic Energy Act
(Nuclear Equipment and Material)

UNCLASSIFIED

POLICY

Defense Technology Security Core Functions

Success of the Defense Technology Security mission requires cooperation and partnership with intra-departmental and interagency stakeholders, international partners, and industry

POLICY

National Security Review of Defense Technology Transfers

DTSA assesses defense technologies and develops measures, in partnership with government and industry, to prevent proliferation or diversion of technology and information that could prove detrimental to U.S. national security

- **Technology Assessments and Risk Management of Direct Commercial Sales and Foreign Military Sales**
- **Exceptions to National Disclosure Policy**
- **Recommendations on Export Licenses for Direct Commercial Sales**
  - Equipment, Technology, Data, and Services
- **Arms Transfer & Technology Release Senior Steering Group (ATTR SSG) High Level Decision Reviews**
- **Space Launch Technology Exports**
  - License proviso development and technology transfer monitoring
- **Committee on Foreign Investment in the U.S. (CFIUS) Technical Reviews**
- **International Agreements on Technology or Information Sharing**
- **Patent Security Reviews**
- **Technology Security Assessments for Enforcement/Compliance Efforts**

International Engagements and Technology Security Cooperation

DTSA works with international partners to protect critical technology and information, increase technology security cooperation and enhance interoperability

- Technology Security Bilateral Engagements
- Multilateral Export Control and Non-Proliferation Regimes (WA, MTCR, NSG, AG)
- Treaties (UK/AU Defense Trade Treaties, Arms Trade Treaty (ATT), NATO)
- Industrial Security Programs
- National Disclosure Policy Committee (NDPC) Security Surveys
- Cooperative Technology Security Programs
- Support of Interagency and Intra-Departmental Bilateral Engagements
- COCOM Liaison
- Defense International Trade Shows

DoD Export, Technology Release and Foreign Disclosure Policy

DTSA shapes international and domestic policies and regulations that protect defense technology and information while facilitating cooperation with Allies and partners

- **Input into U.S. Export Control Laws, Regulations and Policies**
  - Export Control Reform, Commodity Jurisdictions, Commodity Classifications, Entities List
- **Technology Release Waivers**
- **Anticipatory Technology Release Policies**
- **Secretariats for NDPC and ATTR SSG**
- **National and DoD policies on and authorities for disclosure of classified military information and materiel**
- **Visits and assignments of foreign personnel**
- **Guidance to DoD on export controls**
  - Directives, DFARS, Trade Security Controls, Demilitarization Requirements
- **Sanctions**
- **IT Enablers: USXPORTS, DPARS, Foreign Visits System**

POLICY

Working with Allies/Partners to Build Technology Security Capacities

Prepared to share advanced U.S. technology with partners to the level commensurate with their ability and willingness to protect it

- **Long-Standing Allies / Partners**
  - With proven ability to protect U.S. technology
  - License exceptions for thousands of items moved from USML to CCL (e.g., spare parts to maintain weapons platforms)
- **New or Non-Conventional Partnerships**
  - Countries with no proven record or supporting infrastructure and processes
  - New alliances also come with new responsibilities
  - Hinges on will and commitment to build their own technology security capacity – both infrastructure and processes
  - Working with new partners under the Cooperative Technology Security Program

POLICY

DoD Review of Technology Transfers

Factors considered when assessing impact on national security:

- **Policies (Region, Country and Technology)**
- **Level of Technology (U.S. Systems and Countermeasures)**
- **End User and End Use History**
- **Military Operational Impact**
- **Interoperability Requirements**
- **Bilateral, Multilateral, and International Agreements**
- **Foreign Availability of Comparable Systems**
- **Classified Data Transfers**

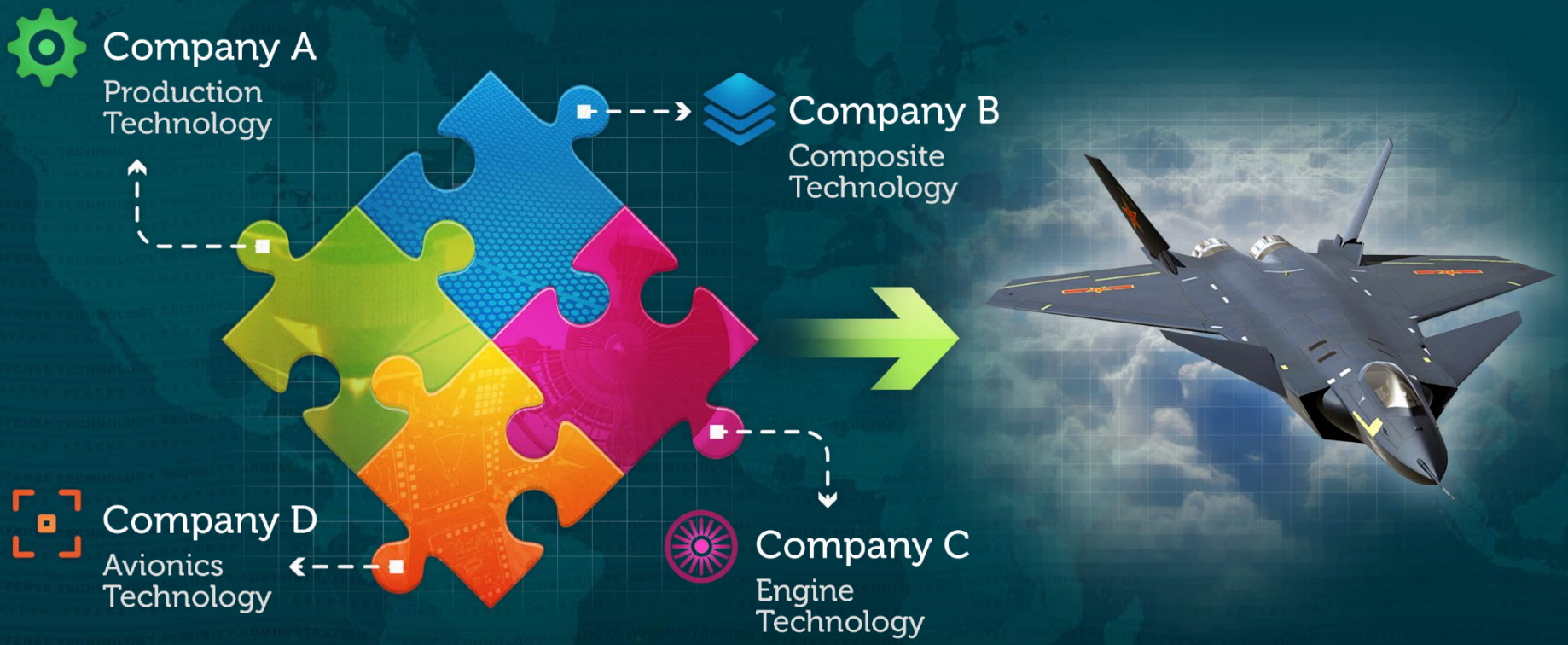
Important to address technology security and foreign disclosure *early* in the process

POLICY

Reasons for Export Controls

Technology Jigsaw Puzzle

POLICY



Aviation and Engine Technology

- The challenge is allowing companies to export dual-use and munition items (commodities, technology or software) to foreign parties while preventing the growth of military capability for countries of concern.

- Not all countries are created equal and other countries may not share the same concerns as the USG. This makes controlling technology very difficult.

- There are countries of concern making concerted efforts to acquire aviation and gas turbine engine technology through exports.

Aviation and Engine Technology (Cont.)

- The U.S. has several models where the lines between a commercial aircraft and military aircraft are blurred by only certain components or capabilities. E.g., P-8 and 737, the H-92 and S-92, or F101 and CFM56.
- The U.S. and our allies has years of experience with systems design and engineering that has been facilitated by the U.S. military, as well as commercial requirements, that is being exported to shortcut other countries capabilities in these areas.
- The U.S. and our allies MUST maintain superiority in aviation technology.
- Joint Ventures, offsets, co-production and/or co-developments threaten that advantage if not properly mitigated.

UNCLASSIFIED

POLICY

License Preparation Guidance

Applicant's Role

- It is incumbent on the Applicant to:
  - Provide the information DoD needs to conduct a thorough technical review
  - "Draw the Box" for the export contemplated in the application so provisos are not imposed constraining the Applicant for items they have no intention of exporting

Please do not make us guess!

POLICY

Conditions "*Draw the Box*"

- Most provisos are imposed because the Applicant has not satisfactorily "drawn the box"
- "Drawing the Box" is not only the scope of the contemplated export but the what is NOT in scope of the contemplated export
- Applicant should "draw their own box" on every application
- If the Applicant does not do a good job of "drawing the box", then:
  - We will recommend Return Without Action (RWA), or
  - Recommend Denial, or
  - "Draw the Box" (impose limitations/provisos); the Applicant may not like our provisos if we are forced to "Draw the Box" for them

Provisos often found at the intersection of Ambiguity and Concern

POLICY

Good Habits

- Focus on the basic elements of every license request: country, commodity, end-user and end-use
- If something is ‘related’, identify the relationship
- Identify license precedents or case history; include copies (more than one is OK)
- Provide clear, concise cover/transmittal letter
- Learn the ITAR/EAR, both layout and content
- Compliance before and after licensing
- Improve knowledge through recurrent training
- Tell us in plain English:
  - What you are doing
  - What you are not doing (may be more important)
  - Avoid jargon, acronyms, do not rely on program names

POLICY

Good Habits (cont'd)

- Describe the technical data flow between parties
- Describe the context of the technology transfers
- Review previous license provisos
- Government POC
  - Verify POC information provided is correct
  - If none, identify what Service(s) would be interested
- Countries - not all countries are created equal
- Temporary Licenses
  - Tell us how will you maintain control
  - Note that Government and Industry end-users are treated differently
  - Be realistic with quantities
- List internet web-site to assist technical review

POLICY

How to Minimize Conditions

- Be specific about the request. Fully scope out the contemplated export.
  - Don't parrot an ECCN or Category in full. We already know the regulations. Only put that part of the ECCN or Category you are requesting.
  - Example: If you are requesting 9E610 technology to conduct MRO (Maintenance, Repair and Overhaul) activities to an aircraft system only put that portion of the ECCN in your LOE (Letter of Explanation)
    - 9E610 technology required for the operation, installation, maintenance, repair, overhaul or refurbishment of military aircraft…
    - Development or production technology is not needed so exclude it from the request

How to Minimize Conditions

- Be specific about the request. Fully scope out the contemplated export.
  - For production technology/technical data: If the foreign party is a capable vendor and only needs the required documentation (drawings, work packages, method ops sheets, etc.) then limit to production technology and only to "build-to-print" as defined in 772.1 of the EAR or 125.4(c)(1) of the ITAR.
    - If they need more, be specific as to why they need more and with which area they need assistance.
  - For development technology/technical data: Provide detailed information as to their current capability to design the item or why they need design information. If the need is limited to acceptance test or conformance than state so. For an ITAR licenses remove "design methodology" or "engineering analysis" as defined in 125.4(c)(4) or (5) of the ITAR

How to Minimize Conditions

- **DO NOT USE OPEN ENDED LANGUAGE WHEN REQUESTING TECHNOLOGY. IT WILL NOT BE ACCEPTED!**
  - **“including but not limited to…”**
  - **“such as”**
  - **“for example”**
- **You MUST identify all the technology contemplated for export. Provide operational definitions of the technology (we may not understand your taxonomy) as well as examples (excerpts are acceptable as long as they communicate the purpose of the document)**

POLICY

“600 Series” Lessons Learned

"600 Series"

- Need to be more diligent in proper Categorization & Classification
  - VIII(x) and XIX(x) MUST comply with ITAR 123.1(b)(3). The commodities must be properly described and enumerated.
  - Even within the ITAR, different categories can mean different licensing policy
- Bulk licenses with 'representative parts lists' MUST BE scrubbed for accuracy
  - Lots of misclassified items found to date
  - Parts or components that are not part of the actual system
    - E.g., Requesting the export of an afterburner (augmentor) for the T56 turboprop engine.
      - NOTE: The T56 does not have an afterburner

"600 Series"

POLICY

- If an aircraft has moved to the CCL (e.g., UH-1) and you are requesting the export of the aircraft you MUST provide a configuration list for the aircraft.
  - Aircraft mission systems are of specific concerns (e.g., communication, navigation, weapons or armaments, aircraft survivability, etc.)
- New Problem: Items or Commodities shipped to STA eligible countries can get it without a license. However, if the same item or commodity is to be shipped back to the U.S. a license is required from the STA country.
  - Example: A gearbox for a military aircraft is repaired in a STA country. The U.S. party can ship the gearbox using the STA exemption; however, once the repair is complete the party in the STA country requires a license to ship the gearbox back.

POLICY

Form, Fit, and Function

Definitions & Examples to help with “Specially Designed”

Function

- The function of a commodity is defined by the action or actions it is designed to perform.
- It is everything the commodity is intended to do at the intended operating conditions (pressure, temperature, vibration, shock, etc.) for the intended life of the commodity.

UNCLASSIFIED

Function

Starter Generator

- 30 Volts @ terminal
- 400 amps load rating
- 28” Water Pressure self cooled @ sea level
- 7,470 rpm to 13,000 rpm
- 0.5 to 300 ohms

Turbine Blade

- Fluid energy extraction:
  - Pressure and Temperature decrease across the airfoil
- Turbine Efficiency

Form

- The form of a commodity is defined by its configuration (including the geometrically measured configuration), material, and material properties that uniquely characterize it.
- It is the size and composition of the item that makes it what it is (configuration).

Form

Starter Generator

- Length: 8 inches
- Diameter: 5.25 inches
- Weight: 18 lbs
- Materials: Aluminum housing, copper wiring for armature, AlNiCo magnets for stator

Turbine Blade

- CSMX-4 Alloy
- Grain Structure in Miller Index 001 Direction
- Single Crystal
- Effusion Cooling Holes

Fit

POLICY

- The fit of a commodity is defined by its ability to physically interface or connect with or become an integral part of another commodity.
- It is how one item connects to another item. How a sub-system connects to the higher level system.

Changing the overall geometry of an Item to integrate it into a higher level assembly is not a change "solely for fit" purposes. That is a Form change.

Fit

Starter Generator

- Bolt Hole Diameter/Locations
- Mounting Flanges
- Threads per inch
- Electrical connector (e.g., # of pins)

Turbine Blade

- Dove Tail Slotting
- Fir Tree Slotting

Industry Briefings

- DTSA is often asked if a company can come in to brief a program
  - Wrong Answer: After the license is submitted (Too late!)
  - Right Answer: Before you submit the license
  - Best Answer: Before you start the program
    - Provides you advance notice of USG concerns
    - Provides you the opportunity to engineer and plan to address, mitigate and/or avoid them
  - Remember, we are not buying your product, conduct brief accordingly

Backup

POLICY

Export Control Reform (ECR)

Four Principles

- Protect “crown jewel” technologies
- Expedite transfers to allies and partners
- Fulfill international export control obligations
- Prevent exports to countries of concern

Four Singles

- 1 Licensing Agency
- 1 Export Control List
- 1 Enforcement Coord Center
- 1 IT system (USXPORTS)

Strategic Intent:

- Unique military or intelligence capabilities: USML
- Items similar to dual-use items w/o unique military capabilities: CCL
- Nothing is being “decontrolled” or changed to benefit 126.1 countries

New Control Lists (2013-2016):

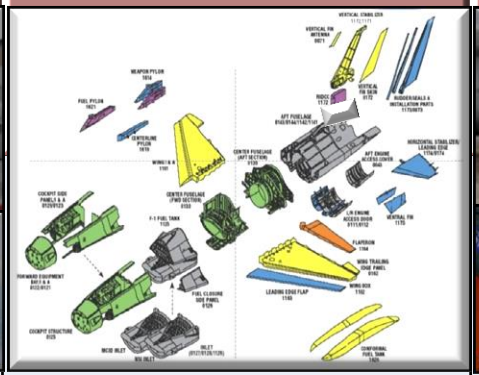
- USML: Enumerated End items
- CCL: New *600-series* entries:
  - .a-.w : specifically enumerated end items…
  - .x : “specially designed” “parts”…
  - .y : specifically enumerated “parts”…

Way Forward

- Continuous USML updates
- NOI, Proposed & Final Rules
- Evaluate emerging techs
- Continue harmonize both lists

UNCLASSIFIED

USML to CCL 600 Series Examples

Revised USML End-Items "A More Positive List"	Commerce Control List 600 Series		
	(".a-.w" items) Specifically enumerated end-items, "parts", "components", "accessories" & "attachments".	(".x" items) "Specially designed" "parts", "components", "accessories" & "attachments".	(".y" items) Specifically enumerated "parts", "components", "accessories" & attachments
 	 		 
• F-15, F-16 • Assembled engines • Weapons pylons • Mission systems • Bomb racks • Missile launchers • Fire control computer • Fire control Radar	• Aircrew life support and safety equipment, etc. • Parachutes, paragliders, etc. • Controlled opening equipment of automatic piloting systems, designed for parachuted loads • T-1 Aircraft	• Wings, Rudder, Fin, Panels • Fuselage – forward, center, aft • Cockpit structure • Forward equipment bay • Control surfaces, activation and control systems	• Aircraft tires • Hydraulic system filters • Hydraulic and fuel hoses, fittings, clips, couplings, nut plates, brackets • Cockpit panel knobs, switches, buttons, dials

UNCLASSIFIED

Technology Transfer "The Big Picture"

POLICY

Office of the Secretary of Defense

Technology Security & Foreign Disclosure Processes

Multiple Authorities

State / Defense / Intelligence Community

13 separate processes. Several processes require DoD to work with other agencies

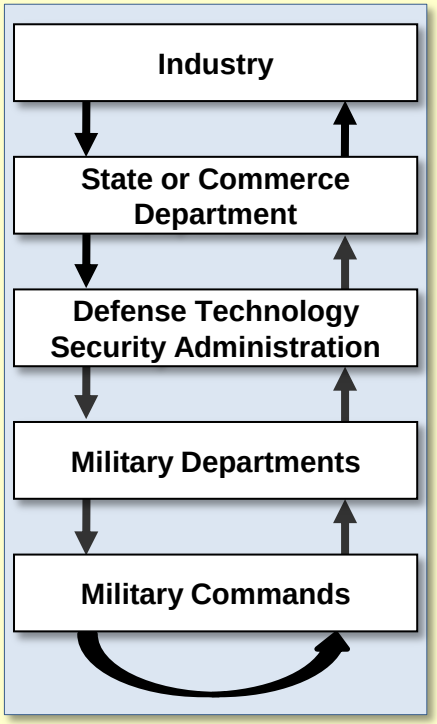
Military Departments

The Military Departments have own Technology Transfer / Disclosure processes

Policy

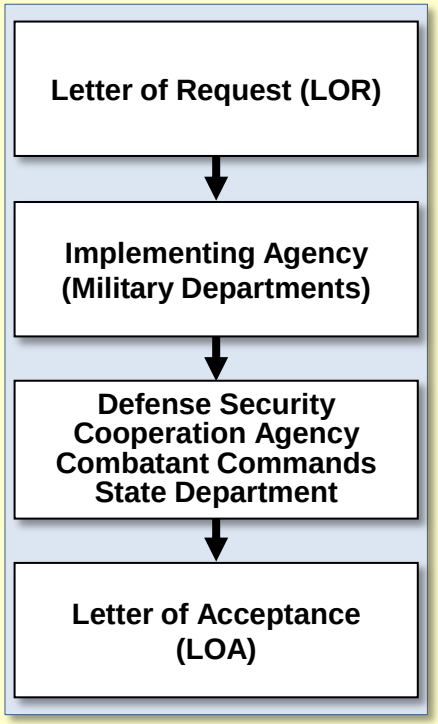
Defense Technology Security Administration

Export Licensing for Direct Commercial Sales



Defense Security Cooperation Agency

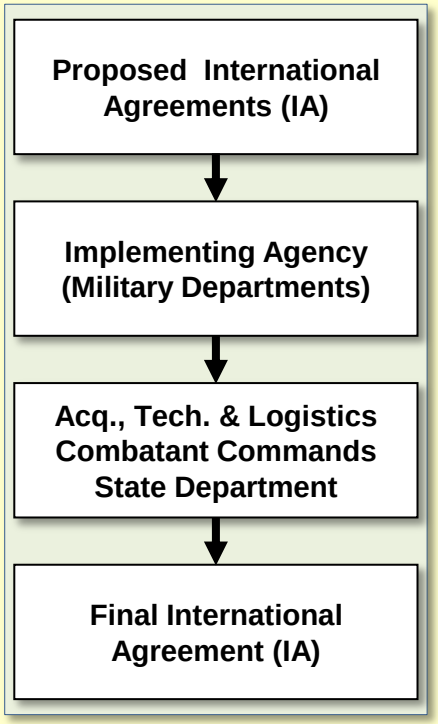
Foreign Military Sales (Gov't-to-Gov't)



Acquisition, Technology & Logistics

International Cooperation

International Armaments Cooperation



* Note – Congressional reporting also occurs for some DCS, FMS, and IAC transactions