Export Compliance – A Business View

Business Process Review

- New Product Introduction
- Marketing and Sales
- Order Management
- Shipment
- Human Resources

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New Product Introduction Lifecycle

Concept/Definition

- Jurisdiction
- Classification
- Deemed Exports
- Technology Transfer
- Licensing

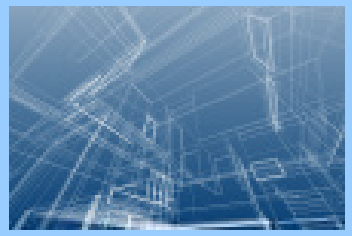
Development

- Jurisdiction
- Classification
- Deemed Exports
- Technology Transfer
- CCATS
- Licensing

Prototype/Beta

- Red Flags
- Jurisdiction
- Classification
- Notification
- Documents/Shipping
- Reporting

Enhancements/ Upgrades



- Jurisdiction
- Classification
- Deemed Exports
- Technology Transfer
- CCATS
- Licensing

Purchasing Lifecycle

Sourcing

- Screening
- Jurisdiction
- Classification
- CCATS
- Licensing

Purchase Orders

- Screening
- Antiboycott
- Red Flags
- Jurisdiction
- Classification
- CCATS
- License
- Documents/Shipping
- Routed Exports
- AES
- Reporting

Marketing Lifecycle

Demo/Presales

- Red Flags
- Screening
- Jurisdiction
- Classification
- Deemed Exports
- Technology Transfer
- Documents/Shipping
- AES
- Reporting

Distribution/Resale Agreements

- Red Flags
- Screening
- Classification
- CCATS
- Licensing
- Documents/Shipping
- AES
- Reporting

Trade Shows/ Samples

- Red Flags
- Screening
- Jurisdiction
- Deemed Exports
- Technology Transfer
- AES
- Reporting

Hand Carries

- Red Flags
- Screening
- Jurisdiction
- Classification
- CCATS
- License
- Documents/Shipping
- AES
- Reporting

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Sales Lifecycle

Demo/Presales

- Red Flags
- Screening
- Jurisdiction
- Classification
- Deemed Exports
- Technology Transfer
- Documents/Shipping
- AES
- Reporting

Quote/ Customer Order

- Red Flags
- Screening
- Jurisdiction
- Classification
- CCATS
- License
- Documents/Shipping
- AES
- Reporting

Installation/Training

- Screening
- Jurisdiction
- Classification
- Deemed Exports
- Technology Transfer
- CCATS
- Licensing

Support

- Red Flags
- Jurisdiction
- Classification
- Deemed Exports
- Technology Transfer
- CCATS
- License
- Routed Exports
- AES
- Reporting

Human Resources Lifecycle

NDA's

•Screening

Application

•Screening
•Jurisdiction
•Classification
•Deemed Exports

Offer

•Screening
•Jurisdiction
•Classification
•Deemed Export
•License

Management

•Jurisdiction
•Deemed Exports
•License

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Shipping Lifecycle

Samples

- Red Flags
- Screening
- Jurisdiction
- Classification
- Deemed Exports
- CCATS
- Licensing
- Documents/Shipping
- AES
- Reporting

Hand Carries

- Red Flags
- Screening
- Jurisdiction
- Classification
- CCATS
- License
- Documents/Shipping
- AES
- Reporting

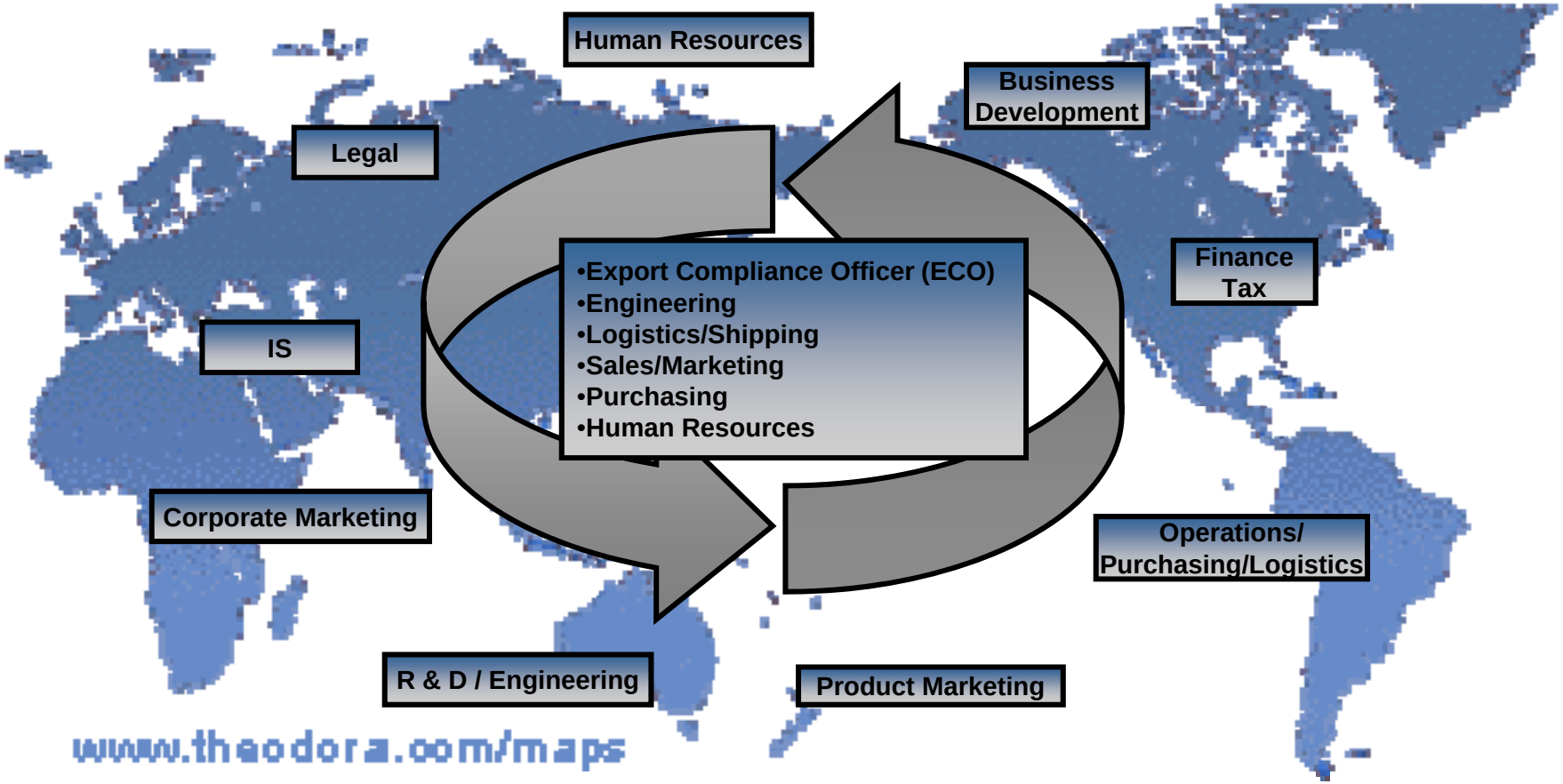
Orders

- Red Flags
- Screening
- Jurisdiction
- Classification
- CCATS
- License
- Documents/Shipping
- AES
- Reporting

Returns

- Red Flags
- Jurisdiction
- Classification
- Deemed Exports
- Technology Transfer
- CCATS
- License
- Routed Exports
- AES
- Reporting

Ensuring Global Compliance



Map courtesy of www.theodora.com/maps, used with permission.

Establishing an Export Council

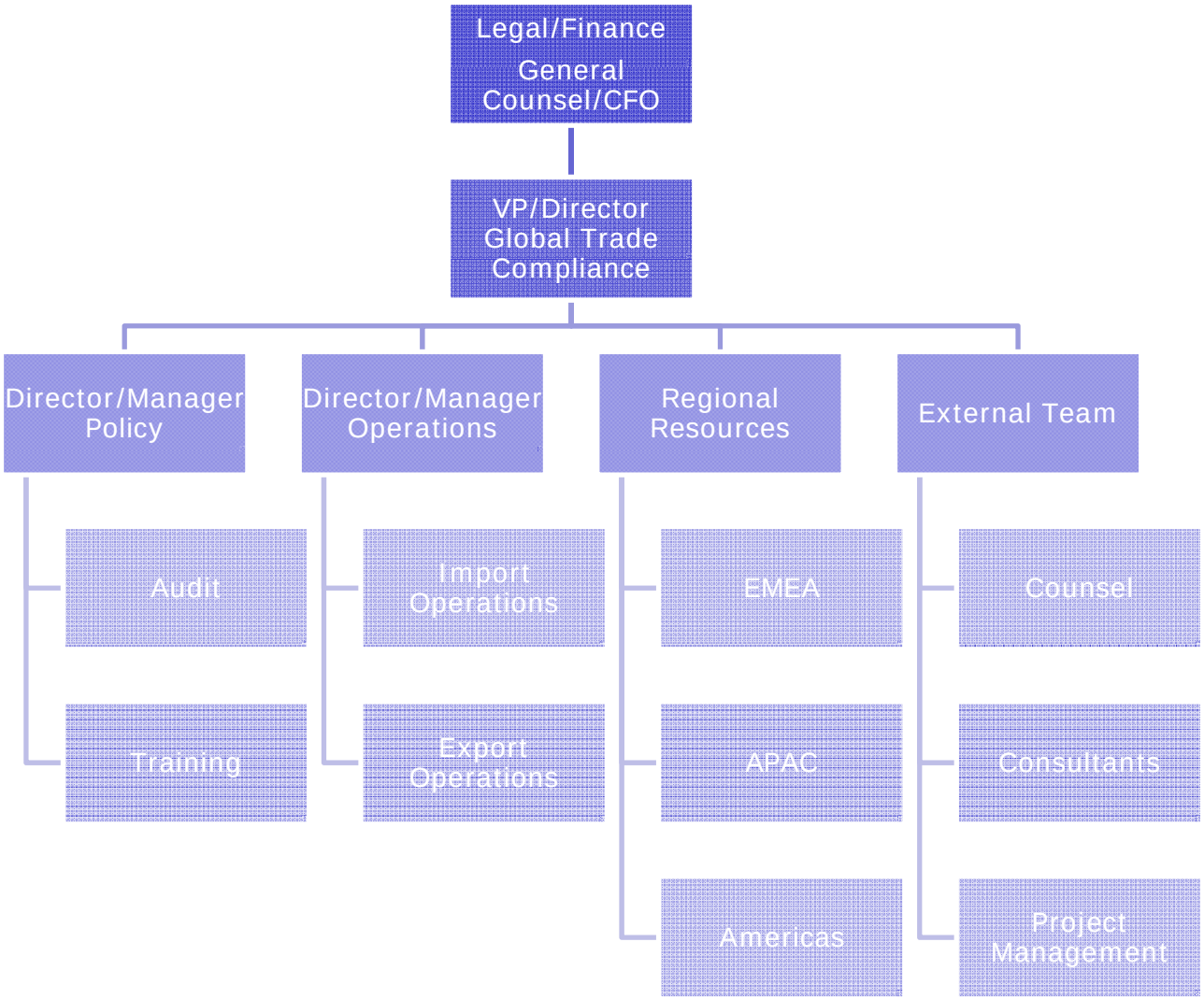
2. Being Actively Involved in Export Compliance

Senior management must become actively involved in export compliance functions and assume responsibility for export compliance. Management must understand when and how export laws and regulations affect the company and the corporate internal controls that have been implemented to ensure compliance with these laws and regulations.

One way for management to become actively involved in export compliance functions is through an export compliance council that meets regularly. This council, which should include senior corporate personnel and business unit personnel, can serve a critical function in overseeing a company's export compliance program. Effective use of a compliance council is explained more fully in section IV.B below.

The degree of senior management commitment is potentially correlated with the degree of involvement by the Board of Directors. Most companies interviewed by the Task Force did not have a Board committee to specifically oversee export compliance functions. More commonly, the Board became involved only if negative audit findings were reported to the Audit Committee or the export compliance council raised an issue to the Executive Committee or Audit Committee. Nevertheless, one way for a company to sustain a strong and very visible management commitment is to give a Board committee process-level oversight of export compliance functions, similar to the Audit Committee's oversight of financial matters. This oversight function could be performed by the Executive Committee, Operations Committee, Compliance Committee, Audit Committee, or other committee as appropriate.[17]

Organizational Structure



Establishing an Export Management System

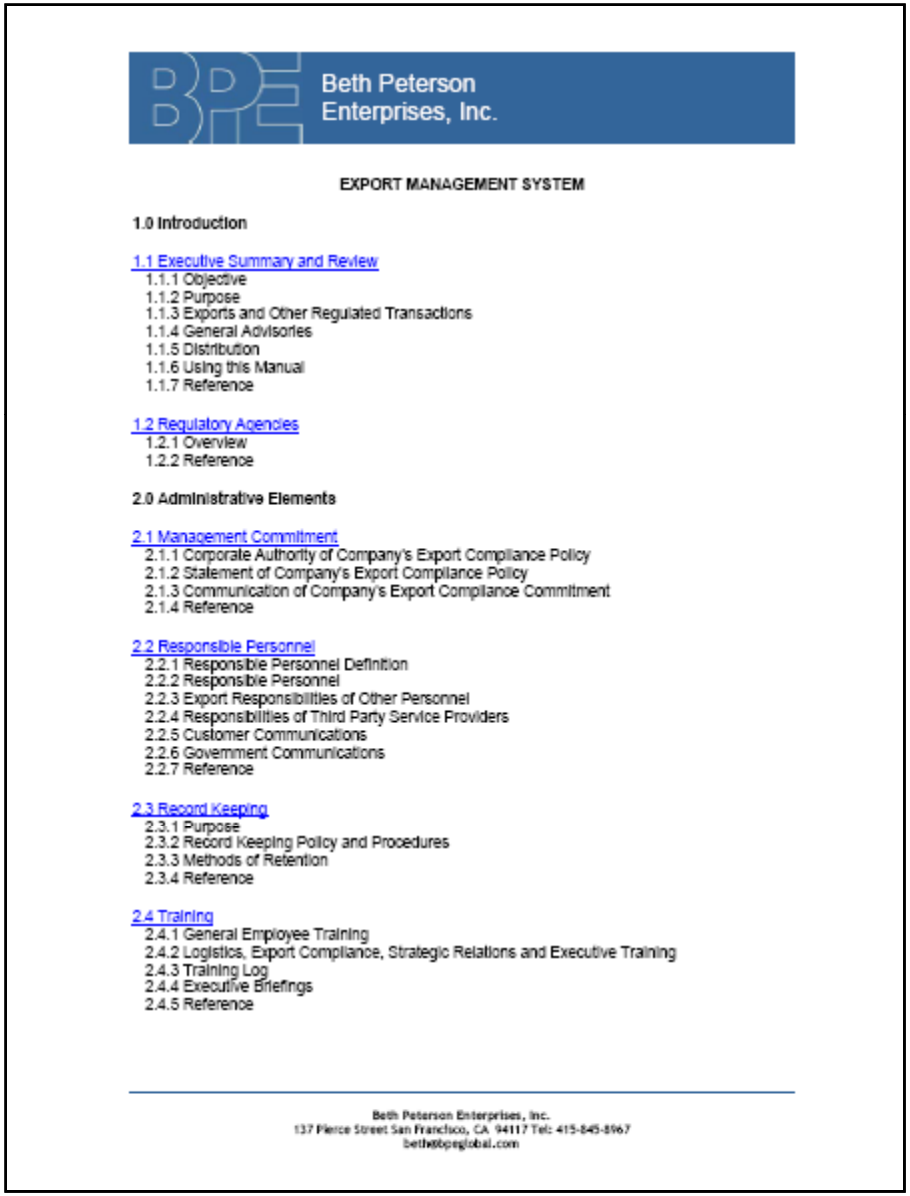
- To achieve your strategic goals:
  - Integrates people, process and technology.
  - Incorporates checks, balances and accountability.
  - Testing, Auditing, Reporting and Follow-Up.

Regulatory Basis for Having an EMS

- Program that helps ensure that each export/reexport is treated consistently and in compliance with U.S. export laws and regulations.
- A map to consistent export compliance.
- An EMS is not a U.S. Government-mandated requirement.
- However, in a changing export control environment, it is a program that companies may consider establishing to ensure their actions are handled in a way that they comply with the EAR.

Structure of an EMS

- Elements
  - Administrative.
  - Order Processing.
  - Screening.



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EXPORT MANAGEMENT SYSTEM

1.0 Introduction

1.1 Executive Summary and Review
1.1.1 Objective
1.1.2 Purpose
1.1.3 Exports and Other Regulated Transactions
1.1.4 General Advisories
1.1.5 Distribution
1.1.6 Using this Manual
1.1.7 Reference

1.2 Regulatory Agencies
1.2.1 Overview
1.2.2 Reference

2.0 Administrative Elements

2.1 Management Commitment
2.1.1 Corporate Authority of Company's Export Compliance Policy
2.1.2 Statement of Company's Export Compliance Policy
2.1.3 Communication of Company's Export Compliance Commitment
2.1.4 Reference

2.2 Responsible Personnel
2.2.1 Responsible Personnel Definition
2.2.2 Responsible Personnel
2.2.3 Export Responsibilities of Other Personnel
2.2.4 Responsibilities of Third Party Service Providers
2.2.5 Customer Communications
2.2.6 Government Communications
2.2.7 Reference

2.3 Record Keeping
2.3.1 Purpose
2.3.2 Record Keeping Policy and Procedures
2.3.3 Methods of Retention
2.3.4 Reference

2.4 Training
2.4.1 General Employee Training
2.4.2 Logistics, Export Compliance, Strategic Relations and Executive Training
2.4.3 Training Log
2.4.4 Executive Briefings
2.4.5 Reference

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Who to Share Your EMS With

- Executive Management (5-6 slides max).
- Export Council.
- General personnel:
  - New employee orientation.
  - Departmental specific training.
- Logistics and compliance personnel.
- Service providers.
- Customers.
- Internal Audit.

When to Share Your EMS

- Upon publication.
- New employees.
- Company meetings.
- Annual departmental reviews.
- Update bulletins.

How to Share Your EMS

- Printed materials:
  - Employee handbook.
  - Employment applications.
- Website
  - Intranet.
  - Extranet.
- Video and Audio Conferences
- In person meetings:
  - Department meetings.
  - Site specific.

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ECCN Classification

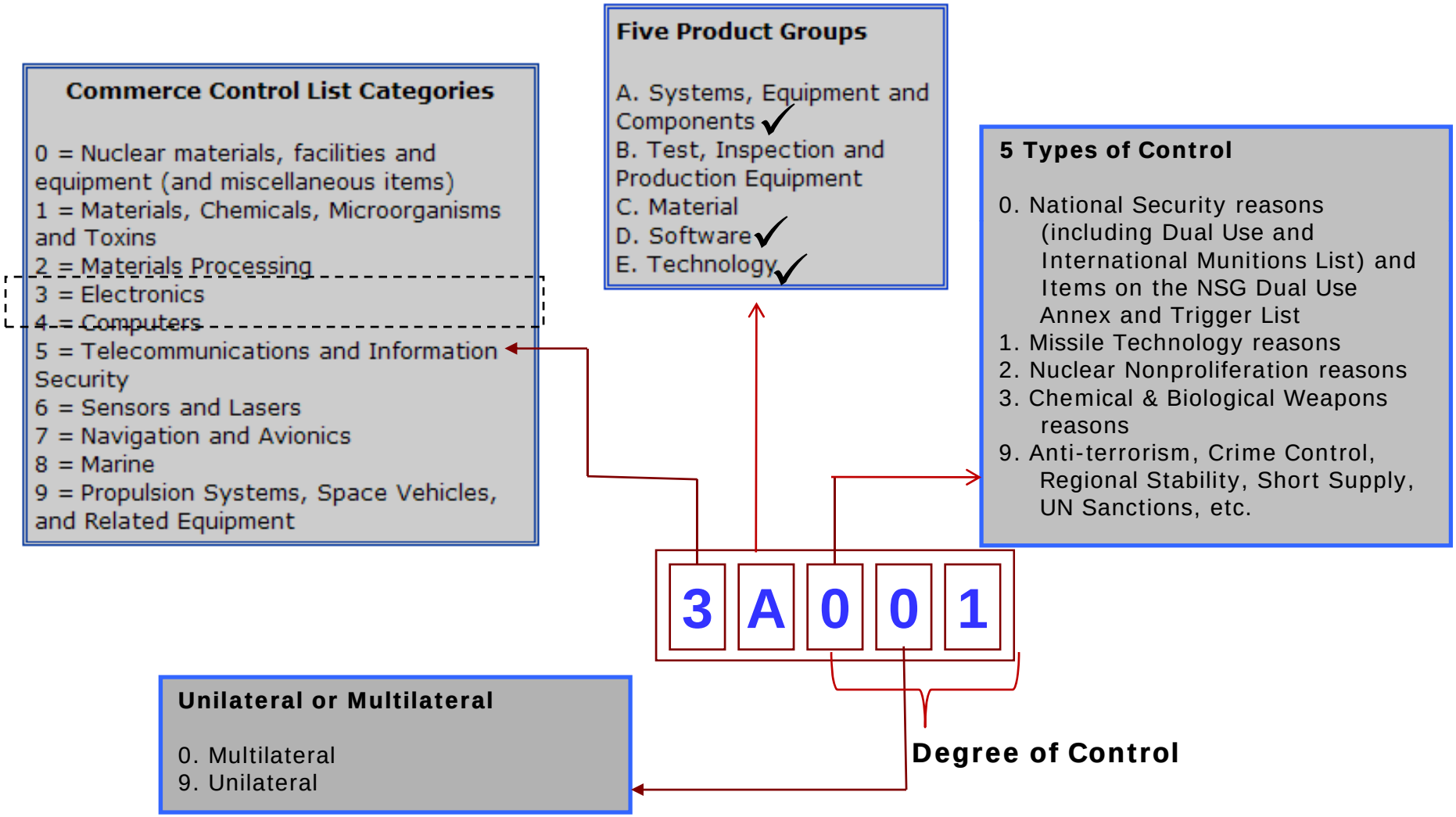
What is the Commerce Control List?

- The Commerce Control List (CCL) is divided into 10 categories.
  - 0-Nuclear Materials, Facilities and Equipment and Misc
  - 1-Materials, Chemicals, “Microorganisms,” and Toxins
  - 2-Materials Processing
  - 3-Electronics
  - 4-Computers
  - 5-Telecommunications and Information Security
  - 6-Lasers and Sensors
  - 7-Navigation and Avionics
  - 8-Marine
  - 9-Propulsion Systems, Space Vehicles and Related Equipment

What is the Commerce Control List?

- Each category is subdivided into five groups, designated by the letters A through E
  A. Equipment, assemblies and components
  B. Test, inspection and production equipment
  C. Materials
  D. Software
  E. Technology.

Export Control Classification Number (ECCN)



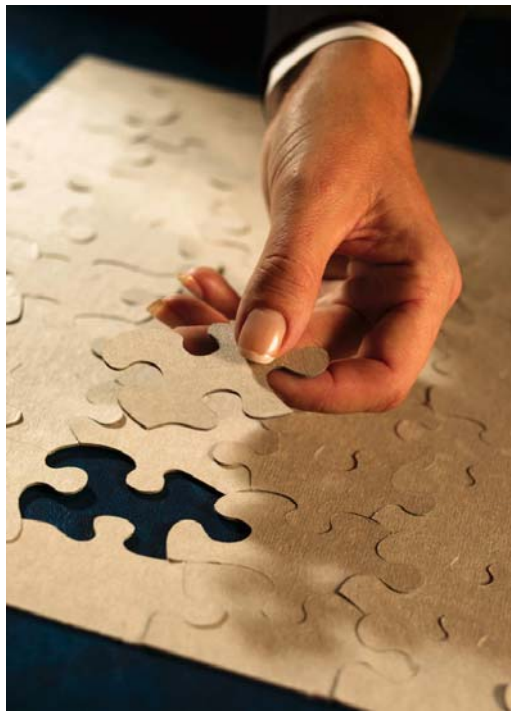
Numbering System

- 001-099 – National Security
- 200-299 – Nuclear Non Proliferation
- 300-399 - Chemical and Biological
- 900-999 – Foreign Policy
- 980-989 – Short Supply/Crime Control
- 990-999 – Anti Terrorism/ United Nations

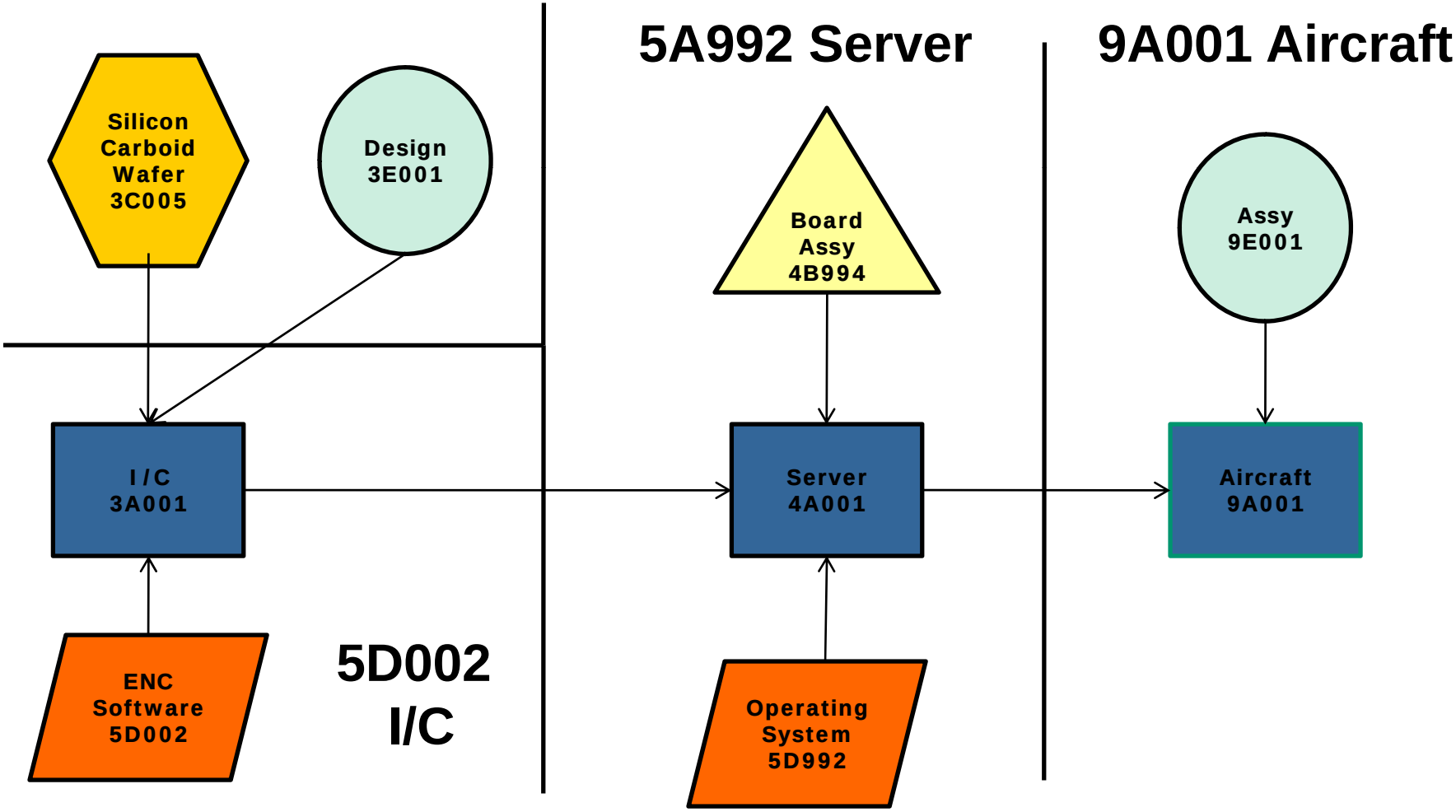
- 900-999 Not strongly controlled

ECCN Classification

- Hardware – be sure that your item fits within the technical parameters of the ECCN.
  - There should only be one ECCN with the perfect fit.
- Technology and Software
  - Establish the hardware ECCN for which its “required” to “develop”, “produce” or “use” and that will drive the Group “D” or “E” control.
  - Exception – encryption software



Determining ECCN at Time of Export

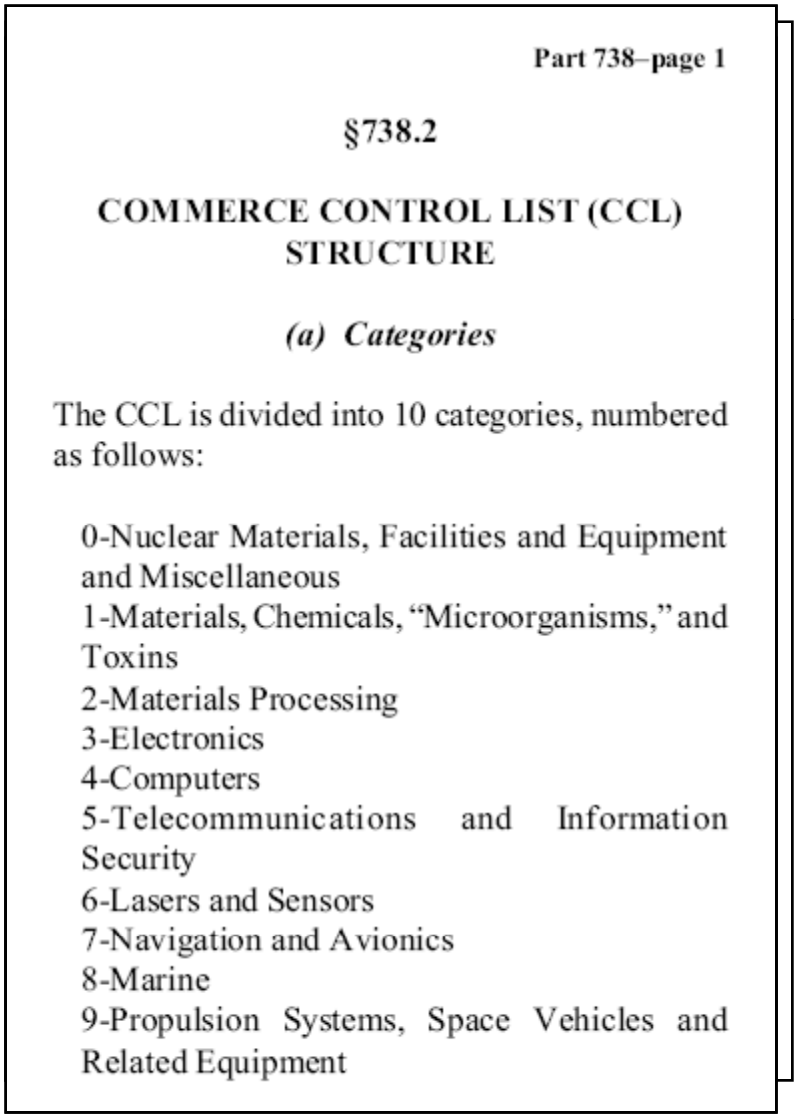


Is EAR99 an ECCN?

- It is not an ECCN.
- EAR99 – "basket" designation for items that are covered by the EAR, but are not specified on the Commerce Control List.
- When your item, software or technology is subject to the EAR, but not in the CCL, you classify it as EAR99.
- EAR99 does not mean that a license is not required.

Reading the CCL

1. Determine your category
2. Read the category in order
   - Read notes
   - Read the CCL in order
   - When you find your product, make sure that it meets the characteristics described in the CCL.



Part 738–page 1

§738.2

COMMERCE CONTROL LIST (CCL) STRUCTURE

(a) Categories

The CCL is divided into 10 categories, numbered as follows:

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

CCL Discussion

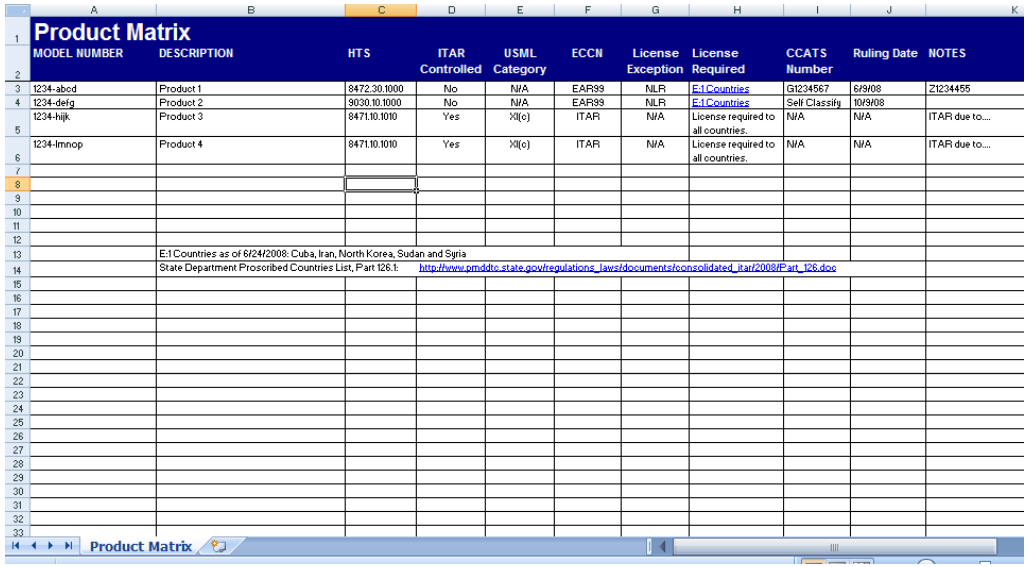
- ITAR and EAR Products
  - Two jurisdictions – one company
  - Segment your products, software and technology
    - Different part numbering systems for each
    - Mark your ITAR products
  - Don’t default to ITAR when its EAR.

Product Matrix

- Version control
- Share it
  - Intranet and Extranet
- A product matrix should include:
  - Finished goods
  - Parts
  - Components

Product Matrix Contents

- Jurisdiction
- ECCN
- CCATS (if applicable)
- License authorization/exception
- Live links to references (e.g. E:1 list)
- HTS
- Ruling (if applicable)
- Date of classification
- Notes



Product Matrix

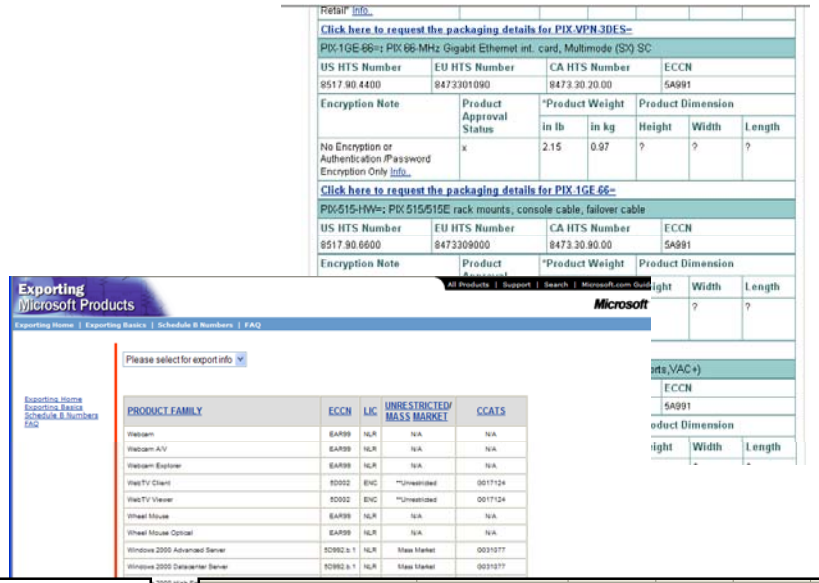
MODEL NUMBER	DESCRIPTION	HTS	ITAR Controlled	USML Category	ECCN	License Exception	License Required	CCATS Number	Ruling Date	NOTES
1234-abcd	Product 1	8472.30.1000	No	N/A	EAR99	NLR	E:1 Countries	G1234567	6/9/08	Z1234455
1234-defg	Product 2	9030.10.1000	No	N/A	EAR99	NLR	E:1 Countries	Self Classify	10/9/08	
1234-hijk	Product 3	8471.10.1010	Yes	XI(c)	ITAR	N/A	License required to all countries.	N/A	N/A	ITAR due to....
1234-lmnop	Product 4	8471.10.1010	Yes	XI(c)	ITAR	N/A	License required to all countries.	N/A	N/A	ITAR due to....

E:1 Countries as of 6/24/2008: Cuba, Iran, North Korea, Sudan and Syria
State Department Proscribed Countries List, Part 126.1: http://www.pmddtc.state.gov/regulations_laws/documents/consolidated_itar/2008/Part_126.doc

Product Matrix

Managing Vendor Provided Info

- ECCNs
- Mass market (NLR)/ENC designations
- Restricted/unrestricted
- CCATS information
  - Number
  - Date



Click here to request the packaging details for PIX-VPN-3DES=

PIX-1GE-66=: PIX 66-MHz Gigabit Ethernet int. card, Multimode (SX) SC

US HTS Number	EU HTS Number	CA HTS Number	ECCN
8517.90.4400	8473301090	8473.30.20.00	5A991

Encryption Note	Product Approval Status	*Product Weight in lb	*Product Weight in kg	Product Dimension Height	Width	Length
No Encryption or Authentication /Password Encryption Only Info..	x	2.15	0.97	?	?	?

Click here to request the packaging details for PIX-1GE-66=

PIX-515-HW=: PIX 515/515E rack mounts, console cable, failover cable

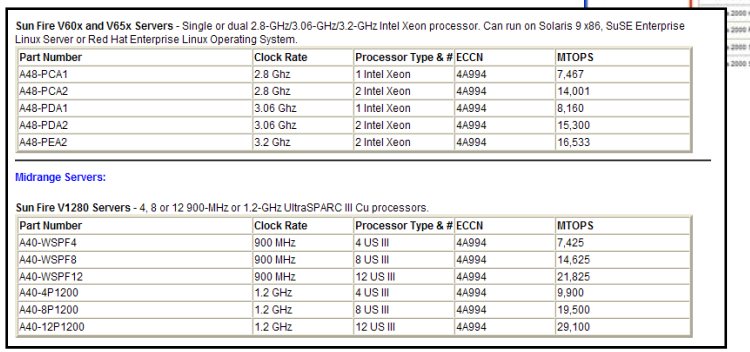
US HTS Number	EU HTS Number	CA HTS Number	ECCN
8517.90.6600	8473309000	8473.30.90.00	5A991

Encryption Note	Product Approval Status	*Product Weight	Product Dimension Height	Width	Length
				?	?

Exporting Microsoft Products

Please select for export info

PRODUCT FAMILY	ECCN	LIC	UNRESTRICTED/ MASS MARKET	CCATS
Webcam	EAR99	NLR	N/A	N/A
Webcam A/V	EAR99	NLR	N/A	N/A
Webcam Explorer	EAR99	NLR	N/A	N/A
WebTV Client	5D002	ENC	**Unrestricted	0017124
WebTV Viewer	5D002	ENC	**Unrestricted	0017124
Wheel Mouse	EAR99	NLR	N/A	N/A
Wheel Mouse Optical	EAR99	NLR	N/A	N/A
Windows 2000 Advanced Server	5D992.b.1	NLR	Mass Market	0031077
Windows 2000 Datacenter Server	5D992.b.1	NLR	Mass Market	0031077



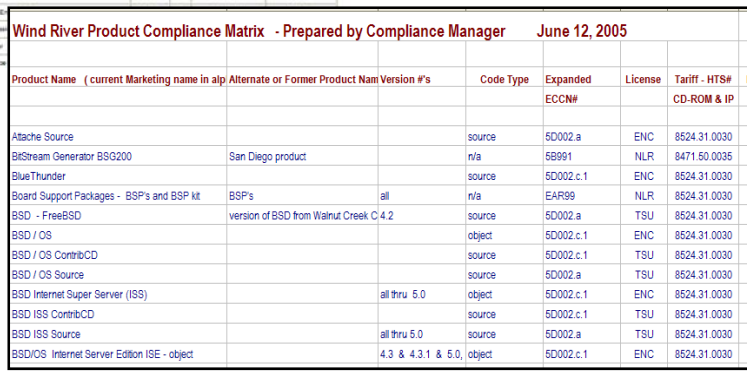
Sun Fire V60x and V65x Servers - Single or dual 2.8-GHz/3.06-GHz/3.2-GHz Intel Xeon processor. Can run on Solaris 9 x86, SuSE Enterprise Linux Server or Red Hat Enterprise Linux Operating System.

Part Number	Clock Rate	Processor Type & #	ECCN	MTOPS
A48-PCA1	2.8 Ghz	1 Intel Xeon	4A994	7,467
A48-PCA2	2.8 Ghz	2 Intel Xeon	4A994	14,001
A48-PDA1	3.06 Ghz	1 Intel Xeon	4A994	8,160
A48-PDA2	3.06 Ghz	2 Intel Xeon	4A994	15,300
A48-PEA2	3.2 Ghz	2 Intel Xeon	4A994	16,533

Midrange Servers:

Sun Fire V1280 Servers - 4, 8 or 12 900-MHz or 1.2-GHz UltraSPARC III Cu processors.

Part Number	Clock Rate	Processor Type & #	ECCN	MTOPS
A40-WSPF4	900 MHz	4 US III	4A994	7,425
A40-WSPF8	900 MHz	8 US III	4A994	14,625
A40-WSPF12	900 MHz	12 US III	4A994	21,825
A40-4P1200	1.2 GHz	4 US III	4A994	9,900
A40-8P1200	1.2 GHz	8 US III	4A994	19,500
A40-12P1200	1.2 GHz	12 US III	4A994	29,100



Wind River Product Compliance Matrix - Prepared by Compliance Manager June 12, 2005

Product Name (current Marketing name in alp	Alternate or Former Product Nam	Version #'s	Code Type	Expanded ECCN#	License	Tariff - HTS# CD-ROM & IP
Atache Source			source	5D002.a	ENC	8524.31.0030
BitStream Generator BSG200	San Diego product		n/a	5B991	NLR	8471.50.0035
BlueThunder			source	5D002.c.1	ENC	8524.31.0030
Board Support Packages - BSP's and BSP kit	BSP's	all	n/a	EAR99	NLR	8524.31.0030
BSD - FreeBSD	version of BSD from Walnut Creek C	4.2	source	5D002.a	TSU	8524.31.0030
BSD / OS			object	5D002.c.1	ENC	8524.31.0030
BSD / OS ContribCD			source	5D002.c.1	TSU	8524.31.0030
BSD / OS Source			source	5D002.a	TSU	8524.31.0030
BSD Internet Super Server (ISS)		all thru 5.0	object	5D002.c.1	ENC	8524.31.0030
BSD ISS ContribCD			source	5D002.c.1	TSU	8524.31.0030
BSD ISS Source		all thru 5.0	source	5D002.a	TSU	8524.31.0030
BSD/OS Internet Server Edition ISE - object		4.3 & 4.3.1 & 5.0,	object	5D002.c.1	ENC	8524.31.0030

Exercise - CD Rom Drive

1. Category
   - 3 – Electronics
     - Electronics refers to the flow of charge (moving electrons) through nonmetal conductors (mainly semiconductors), whereas electrical refers to the flow of charge through metal conductors.
   - 4 – Computers
     - A computer is a machine that manipulates data according to a list of instructions.

§738.2

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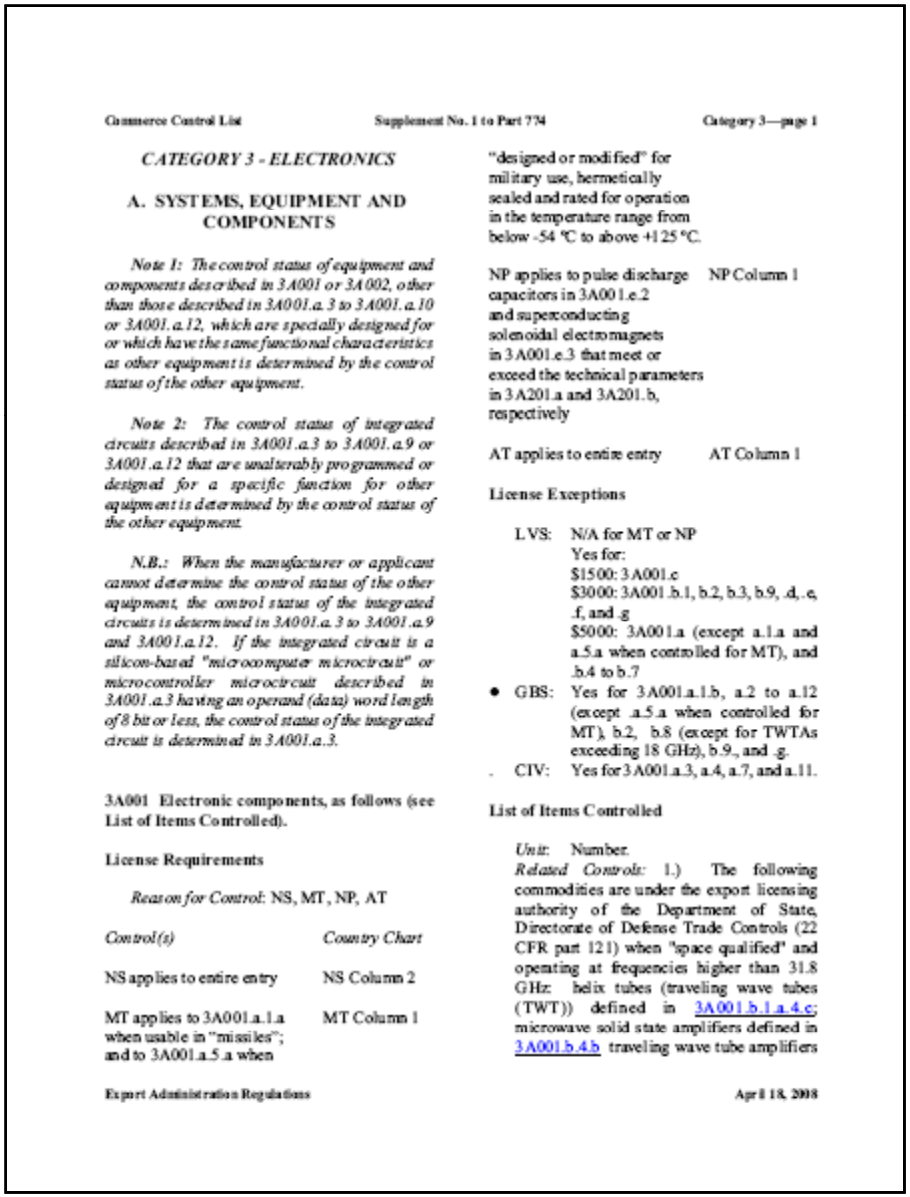
3-Electronics
4-Computers
5-Telecommunications and Information Security
6-Lasers and Sensors
7-Navigation and Avionics
8-Marine
9-Propulsion Systems, Space Vehicles and Related Equipment

Category 3 Note 1

1. *Equipment and components described in 3A001 or 3A002*
   - *Other than those described in 3A001.a.3 to 3A001.a.10 or 3A001.a.12*

   is determined by the control status of the other equipment.



Commerce Control List — Supplement No. 1 to Part 774 — Category 3—page 1

CATEGORY 3 - ELECTRONICS

A. SYSTEMS, EQUIPMENT AND COMPONENTS

Note 1: The control status of equipment and components described in 3A001 or 3A002, other than those described in 3A001.a.3 to 3A001.a.10 or 3A001.a.12, which are specially designed for or which have the same functional characteristics as other equipment is determined by the control status of the other equipment.

Note 2: The control status of integrated circuits described in 3A001.a.3 to 3A001.a.9 or 3A001.a.12 that are unalterably programmed or designed for a specific function for other equipment is determined by the control status of the other equipment.

N.B.: When the manufacturer or applicant cannot determine the control status of the other equipment, the control status of the integrated circuits is determined in 3A001.a.3 to 3A001.a.9 and 3A001.a.12. If the integrated circuit is a silicon-based "microcomputer microcircuit" or microcontroller microcircuit described in 3A001.a.3 having an operand (data) word length of 8 bit or less, the control status of the integrated circuit is determined in 3A001.a.3.

3A001 Electronic components, as follows (see List of Items Controlled).

License Requirements

Reason for Control: NS, MT, NP, AT

Control(s)	*Country Chart*
NS applies to entire entry	NS Column 2
MT applies to 3A001.a.1.a when usable in "missiles"; and to 3A001.a.5.a when "designed or modified" for military use, hermetically sealed and rated for operation in the temperature range from below -54 °C to above +125 °C.	MT Column 1
NP applies to pulse discharge capacitors in 3A001.e.2 and superconducting solenoidal electromagnets in 3A001.e.3 that meet or exceed the technical parameters in 3A201.a and 3A201.b, respectively	NP Column 1
AT applies to entire entry	AT Column 1

License Exceptions

LVS: N/A for MT or NP
Yes for:
$1500: 3A001.c
$3000: 3A001.b.1, b.2, b.3, b.9, .d, .e, .f, and .g
$5000: 3A001.a (except a.1.a and a.5.a when controlled for MT), and .b.4 to b.7

- GBS: Yes for 3A001.a.1.b, a.2 to a.12 (except .a.5.a when controlled for MT), b.2, b.8 (except for TWTAs exceeding 18 GHz), b.9., and .g.
- CIV: Yes for 3A001.a.3, a.4, a.7, and a.11.

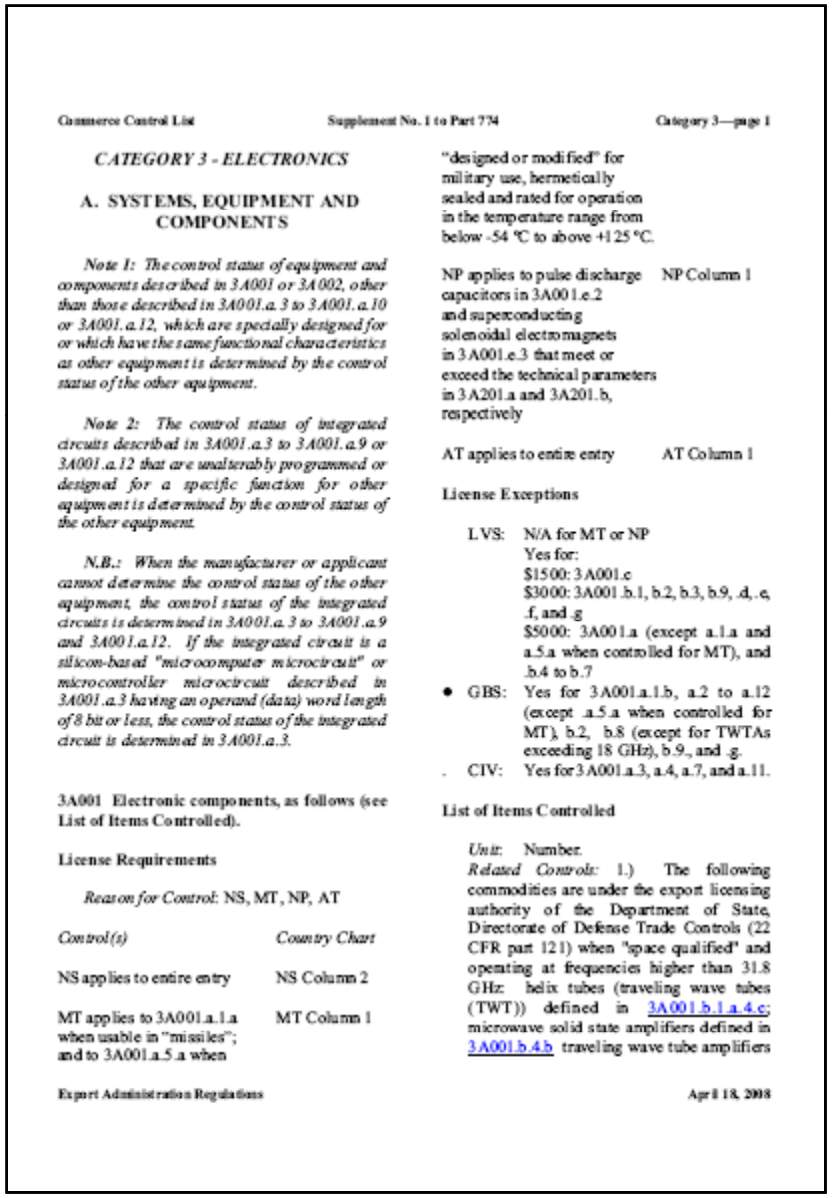
List of Items Controlled

Unit: Number.
Related Controls: 1.) The following commodities are under the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121) when "space qualified" and operating at frequencies higher than 31.8 GHz: helix tubes (traveling wave tubes (TWT)) defined in 3A001.b.1.a.4.c; microwave solid state amplifiers defined in 3A001.b.4.b traveling wave tube amplifiers

Export Administration Regulations — April 18, 2008

Category 3 Note 2

2. *Integrated circuits described in 3A001.a.3 to 3A001.a.9 or 3A001.a.12 that are unalterably programmed or designed for a specific function for other equipment is determined by the control status of the other equipment.*



Commerce Control List — Supplement No. 1 to Part 774 — Category 3—page 1

CATEGORY 3 - ELECTRONICS

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3A001 Electronic components, as follows (see List of Items Controlled).

License Requirements

Reason for Control: NS, MT, NP, AT

Control(s)	*Country Chart*
NS applies to entire entry	NS Column 2
MT applies to 3A001.a.1.a when usable in "missiles"; and to 3A001.a.5.a when "designed or modified" for military use, hermetically sealed and rated for operation in the temperature range from below -54 °C to above +125 °C.	MT Column 1
NP applies to pulse discharge capacitors in 3A001.e.2 and superconducting solenoidal electromagnets in 3A001.e.3 that meet or exceed the technical parameters in 3A201.a and 3A201.b, respectively	NP Column 1
AT applies to entire entry	AT Column 1

License Exceptions

LVS: N/A for MT or NP
Yes for:
$1500: 3A001.c
$3000: 3A001.b.1, b.2, b.3, b.9, .d, .e, .f, and .g
$5000: 3A001.a (except a.1.a and a.5.a when controlled for MT), and .b.4 to b.7

- GBS: Yes for 3A001.a.1.b, a.2 to a.12 (except .a.5.a when controlled for MT), b.2, b.8 (except for TWTAs exceeding 18 GHz), b.9., and .g.
- CIV: Yes for 3A001.a.3, a.4, a.7, and a.11.

List of Items Controlled

Unit: Number.
Related Controls: 1.) The following commodities are under the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121) when "space qualified" and operating at frequencies higher than 31.8 GHz: helix tubes (traveling wave tubes (TWT)) defined in 3A001.b.1.a.4.c; microwave solid state amplifiers defined in 3A001.b.4.b traveling wave tube amplifiers

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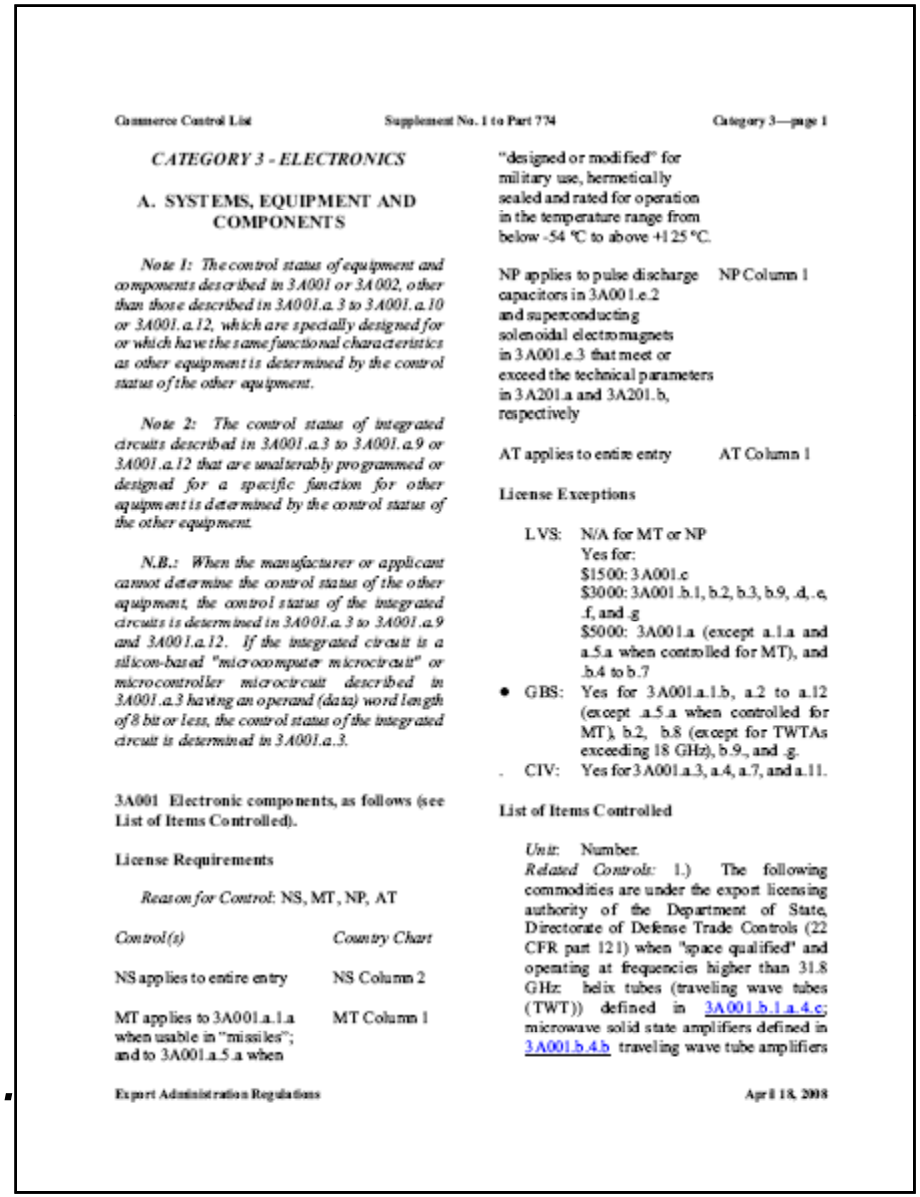
Category 3 NB

- *Cannot determine the control status of the other equipment, control status of the integrated circuits is determined in 3A001.a.3 to 3A001.a.9 and 3A001.a.12.*
- *Silicon-based "micro-computer microcircuit" 3A001.a.3 (8 bit or less) control status is determined in 3A001.a.3.*



Commerce Control List Supplement No. 1 to Part 774 Category 3—page 1

CATEGORY 3 - ELECTRONICS

A. SYSTEMS, EQUIPMENT AND COMPONENTS

Note 1: The control status of equipment and components described in 3A001 or 3A002, other than those described in 3A001.a.3 to 3A001.a.10 or 3A001.a.12, which are specially designed for or which have the same functional characteristics as other equipment is determined by the control status of the other equipment.

Note 2: The control status of integrated circuits described in 3A001.a.3 to 3A001.a.9 or 3A001.a.12 that are unalterably programmed or designed for a specific function for other equipment is determined by the control status of the other equipment.

N.B.: When the manufacturer or applicant cannot determine the control status of the other equipment, the control status of the integrated circuits is determined in 3A001.a.3 to 3A001.a.9 and 3A001.a.12. If the integrated circuit is a silicon-based "microcomputer microcircuit" or microcontroller microcircuit described in 3A001.a.3 having an operand (data) word length of 8 bit or less, the control status of the integrated circuit is determinad in 3A001.a.3.

3A001 Electronic components, as follows (see List of Items Controlled).

License Requirements

Reason for Control: NS, MT, NP, AT

Control(s)	*Country Chart*
NS applies to entire entry	NS Column 2
MT applies to 3A001.a.1.a when usable in "missiles"; and to 3A001.a.5.a when "designed or modified" for military use, hermetically sealed and rated for operation in the temperature range from below -54 °C to above +125 °C.	MT Column 1
NP applies to pulse discharge capacitors in 3A001.e.2 and superconducting solenoidal electromagnets in 3A001.e.3 that meet or exceed the technical parameters in 3A201.a and 3A201.b, respectively	NP Column 1
AT applies to entire entry	AT Column 1

License Exceptions

LVS: N/A for MT or NP
Yes for:
$1500: 3A001.c
$3000: 3A001.b.1, b.2, b.3, b.9, .d, .e, .f, and .g
$5000: 3A001.a (except a.1.a and a.5.a when controlled for MT), and .b.4 to b.7

- GBS: Yes for 3A001.a.1.b, a.2 to a.12 (except .a.5.a when controlled for MT), b.2, b.8 (except for TWTAs exceeding 18 GHz), b.9., and .g.

CIV: Yes for 3A001.a.3, a.4, a.7, and a.11.

List of Items Controlled

Unit: Number.
Related Controls: 1.) The following commodities are under the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121) when "space qualified" and operating at frequencies higher than 31.8 GHz: helix tubes (traveling wave tubes (TWT)) defined in 3A001.b.1.a.4.c; microwave solid state amplifiers defined in 3A001.b.4.b traveling wave tube amplifiers

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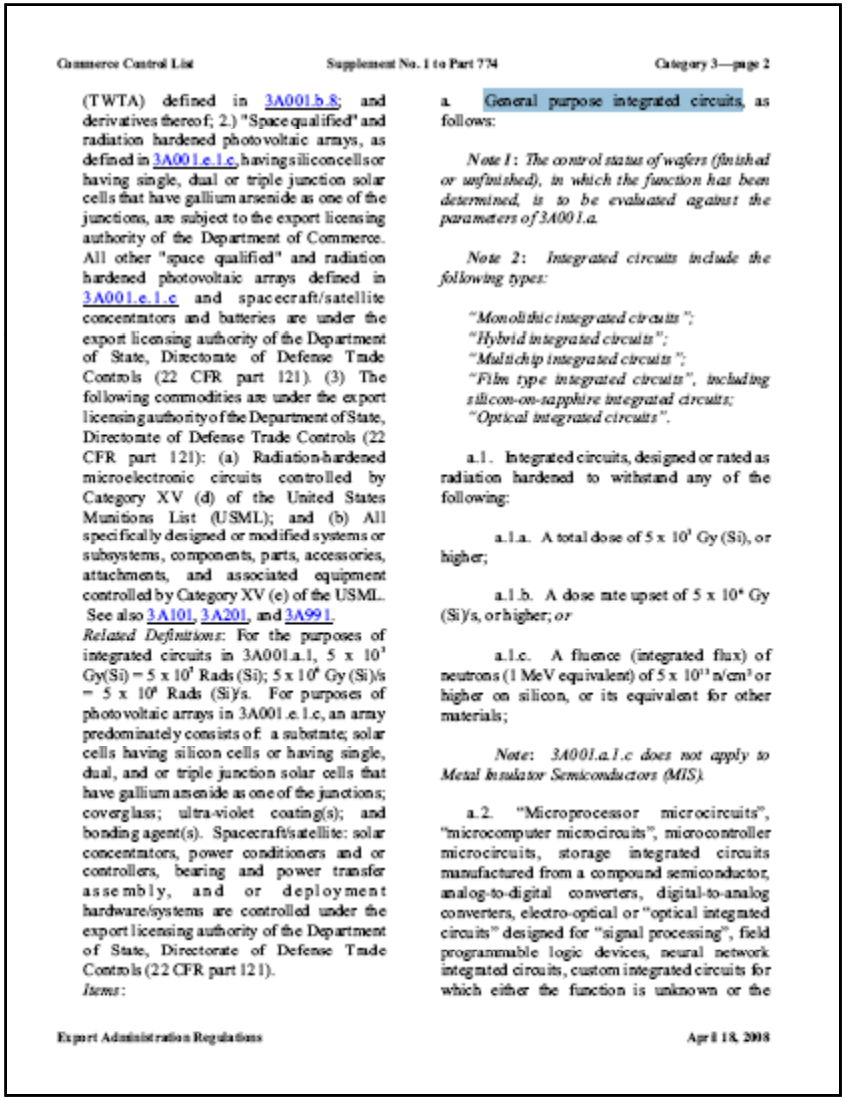
CCL 3 – Read in Order

- 3A001.a - General purpose integrated circuits

Not Integrated Circuits



Commerce Control List | Supplement No. 1 to Part 774 | Category 3—page 2

(TWTA) defined in 3A001.b.8; and derivatives thereof; 2.) "Space qualified" and radiation hardened photovoltaic arrays, as defined in 3A001.e.1.c, having silicon cells or having single, dual or triple junction solar cells that have gallium arsenide as one of the junctions, are subject to the export licensing authority of the Department of Commerce. All other "space qualified" and radiation hardened photovoltaic arrays defined in 3A001.e.1.c and spacecraft/satellite concentrators and batteries are under the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121). (3) The following commodities are under the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121): (a) Radiation-hardened microelectronic circuits controlled by Category XV (d) of the United States Munitions List (USML); and (b) All specifically designed or modified systems or subsystems, components, parts, accessories, attachments, and associated equipment controlled by Category XV (e) of the USML. See also 3A101, 3A201, and 3A991.

Related Definitions: For the purposes of integrated circuits in 3A001.a.1, 5 x 10^3 Gy(Si) = 5 x 10^5 Rads (Si); 5 x 10^6 Gy (Si)/s = 5 x 10^8 Rads (Si)/s. For purposes of photovoltaic arrays in 3A001.e.1.c, an array predominately consists of: a substrate; solar cells having silicon cells or having single, dual, and or triple junction solar cells that have gallium arsenide as one of the junctions; coverglass; ultra-violet coating(s); and bonding agent(s). Spacecraft/satellite: solar concentrators, power conditioners and or controllers, bearing and power transfer assembly, and or deployment hardware/systems are controlled under the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121).

Items:

a. General purpose integrated circuits, as follows:

Note 1: *The control status of wafers (finished or unfinished), in which the function has been determined, is to be evaluated against the parameters of 3A001.a.*

Note 2: *Integrated circuits include the following types:*

"Monolithic integrated circuits";
"Hybrid integrated circuits";
"Multichip integrated circuits";
"Film type integrated circuits", including silicon-on-sapphire integrated circuits;
"Optical integrated circuits".

a.1. Integrated circuits, designed or rated as radiation hardened to withstand any of the following:

a.1.a. A total dose of 5 x 10^3 Gy (Si), or higher;

a.1.b. A dose rate upset of 5 x 10^6 Gy (Si)/s, or higher; *or*

a.1.c. A fluence (integrated flux) of neutrons (1 MeV equivalent) of 5 x 10^{13} n/cm^2 or higher on silicon, or its equivalent for other materials;

Note: *3A001.a.1.c does not apply to Metal Insulator Semiconductors (MIS).*

a.2. "Microprocessor microcircuits", "microcomputer microcircuits", microcontroller microcircuits, storage integrated circuits manufactured from a compound semiconductor, analog-to-digital converters, digital-to-analog converters, electro-optical or "optical integrated circuits" designed for "signal processing", field programmable logic devices, neural network integrated circuits, custom integrated circuits for which either the function is unknown or the

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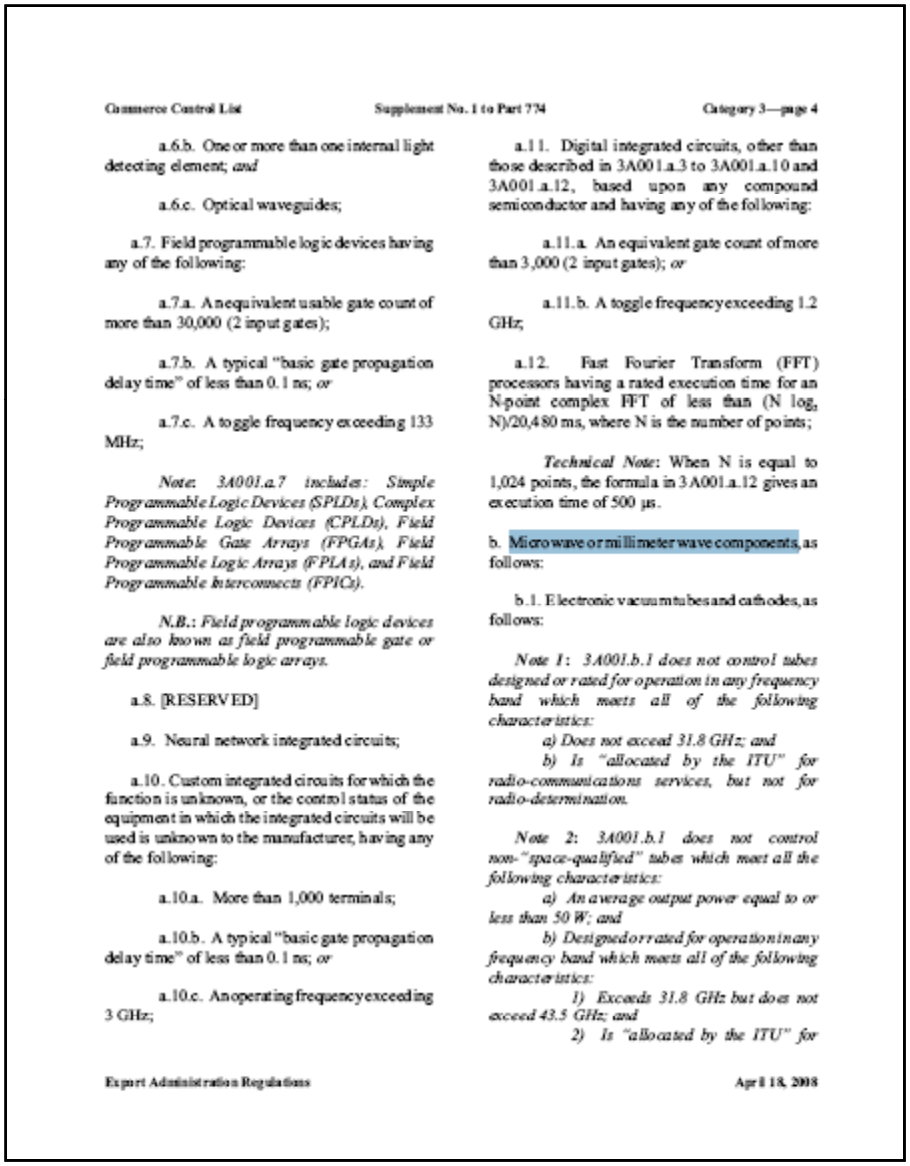
CCL 3

- 3A001.b - Microwave or millimeter wave components

Wave Components



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a.6.b. One or more than one internal light detecting element; *and*

a.6.c. Optical waveguides;

a.7. Field programmable logic devices having any of the following:

a.7.a. An equivalent usable gate count of more than 30,000 (2 input gates);

a.7.b. A typical "basic gate propagation delay time" of less than 0.1 ns; *or*

a.7.c. A toggle frequency exceeding 133 MHz;

Note: 3A001.a.7 includes: Simple Programmable Logic Devices (SPLDs), Complex Programmable Logic Devices (CPLDs), Field Programmable Gate Arrays (FPGAs), Field Programmable Logic Arrays (FPLAs), and Field Programmable Interconnects (FPICs).

N.B.: Field programmable logic devices are also known as field programmable gate or field programmable logic arrays.

a.8. [RESERVED]

a.9. Neural network integrated circuits;

a.10. Custom integrated circuits for which the function is unknown, or the control status of the equipment in which the integrated circuits will be used is unknown to the manufacturer, having any of the following:

a.10.a. More than 1,000 terminals;

a.10.b. A typical "basic gate propagation delay time" of less than 0.1 ns; *or*

a.10.c. An operating frequency exceeding 3 GHz;

a.11. Digital integrated circuits, other than those described in 3A001.a.3 to 3A001.a.10 and 3A001.a.12, based upon any compound semiconductor and having any of the following:

a.11.a. An equivalent gate count of more than 3,000 (2 input gates); *or*

a.11.b. A toggle frequency exceeding 1.2 GHz;

a.12. Fast Fourier Transform (FFT) processors having a rated execution time for an N-point complex FFT of less than (N log, N)/20,480 ms, where N is the number of points;

Technical Note: When N is equal to 1,024 points, the formula in 3A001.a.12 gives an execution time of 500 µs.

b. Microwave or millimeter wave components, as follows:

b.1. Electronic vacuum tubes and cathodes, as follows:

Note 1: 3A001.b.1 does not control tubes designed or rated for operation in any frequency band which meets all of the following characteristics:

a) Does not exceed 31.8 GHz; and

b) Is "allocated by the ITU" for radio-communications services, but not for radio-determination.

Note 2: 3A001.b.1 does not control non-"space-qualified" tubes which meet all the following characteristics:

a) An average output power equal to or less than 50 W; and

b) Designed or rated for operation in any frequency band which meets all of the following characteristics:

1) Exceeds 31.8 GHz but does not exceed 43.5 GHz; and

2) Is "allocated by the ITU" for

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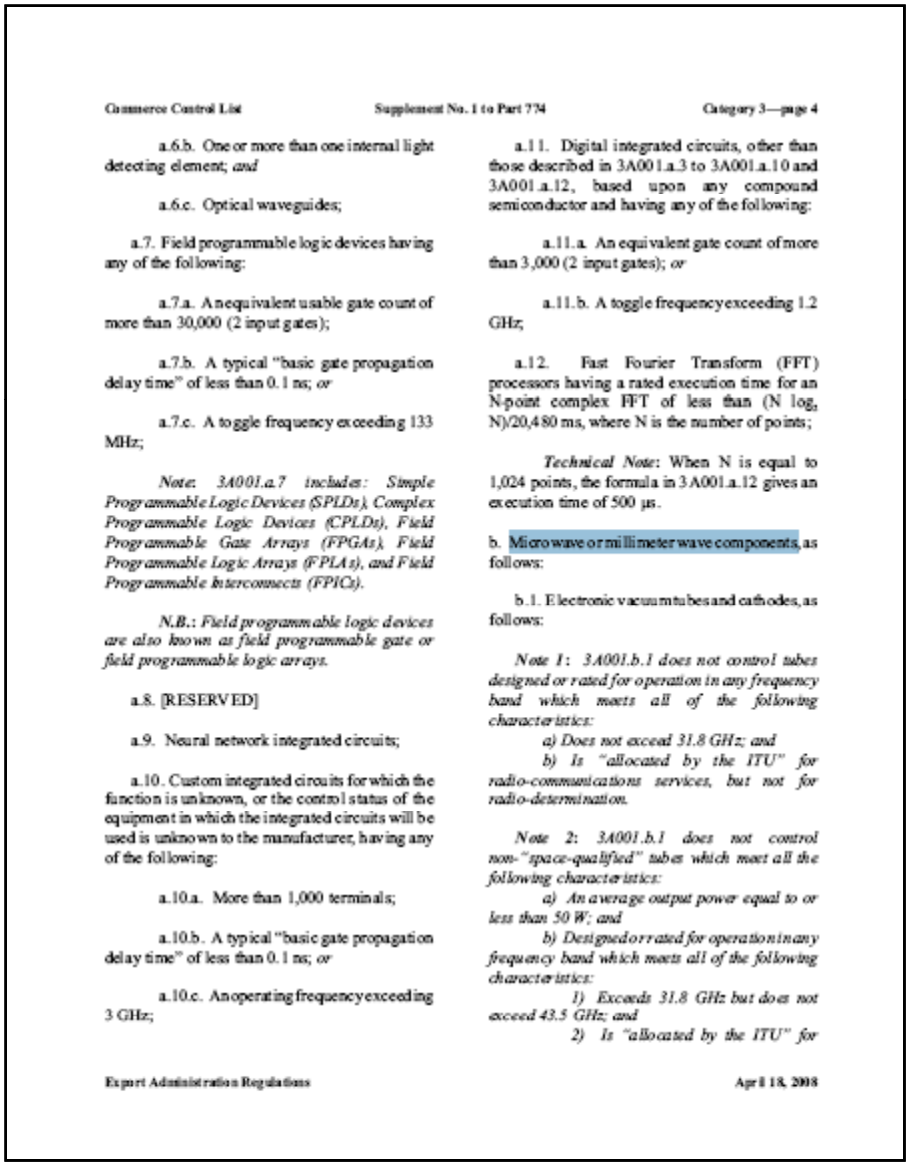
CCL 3.b.1

- B.1 - Electronic vacuum tubes and cathodes

Not tubes or cathodes



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a.6.b. One or more than one internal light detecting element; *and*

a.6.c. Optical waveguides;

a.7. Field programmable logic devices having any of the following:

a.7.a. An equivalent usable gate count of more than 30,000 (2 input gates);

a.7.b. A typical "basic gate propagation delay time" of less than 0.1 ns; *or*

a.7.c. A toggle frequency exceeding 133 MHz;

Note: 3A001.a.7 includes: Simple Programmable Logic Devices (SPLDs), Complex Programmable Logic Devices (CPLDs), Field Programmable Gate Arrays (FPGAs), Field Programmable Logic Arrays (FPLAs), and Field Programmable Interconnects (FPICs).

N.B.: Field programmable logic devices are also known as field programmable gate or field programmable logic arrays.

a.8. [RESERVED]

a.9. Neural network integrated circuits;

a.10. Custom integrated circuits for which the function is unknown, or the control status of the equipment in which the integrated circuits will be used is unknown to the manufacturer, having any of the following:

a.10.a. More than 1,000 terminals;

a.10.b. A typical "basic gate propagation delay time" of less than 0.1 ns; *or*

a.10.c. An operating frequency exceeding 3 GHz;

a.11. Digital integrated circuits, other than those described in 3A001.a.3 to 3A001.a.10 and 3A001.a.12, based upon any compound semiconductor and having any of the following:

a.11.a. An equivalent gate count of more than 3,000 (2 input gates); *or*

a.11.b. A toggle frequency exceeding 1.2 GHz;

a.12. Fast Fourier Transform (FFT) processors having a rated execution time for an N-point complex FFT of less than (N log, N)/20,480 ms, where N is the number of points;

Technical Note: When N is equal to 1,024 points, the formula in 3A001.a.12 gives an execution time of 500 µs.

b. Microwave or millimeter wave components, as follows:

b.1. Electronic vacuum tubes and cathodes, as follows:

Note 1: 3A001.b.1 does not control tubes designed or rated for operation in any frequency band which meets all of the following characteristics:

a) Does not exceed 31.8 GHz; and

b) Is "allocated by the ITU" for radio-communications services, but not for radio-determination.

Note 2: 3A001.b.1 does not control non-"space-qualified" tubes which meet all the following characteristics:

a) An average output power equal to or less than 50 W; and

b) Designed or rated for operation in any frequency band which meets all of the following characteristics:

1) Exceeds 31.8 GHz but does not exceed 43.5 GHz; and

2) Is "allocated by the ITU" for

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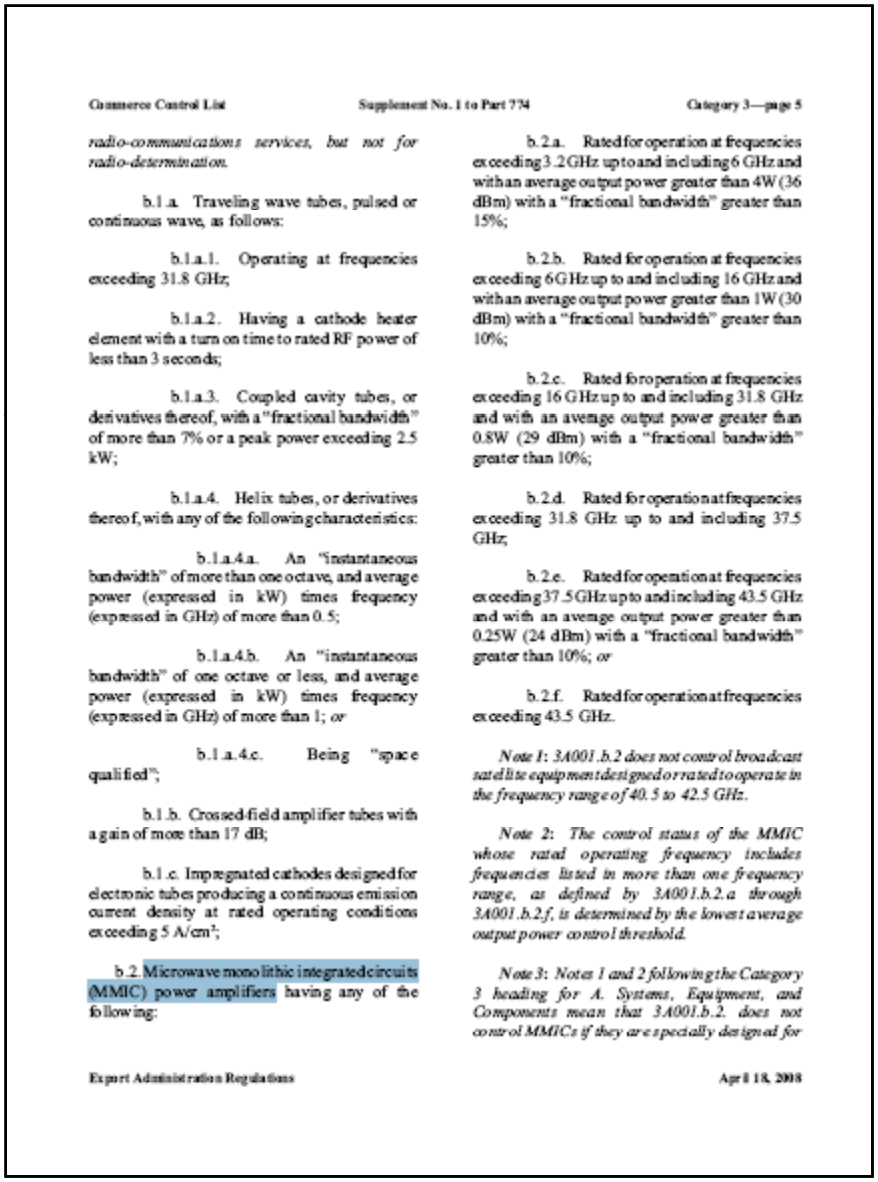
CCL 3.b.2

- B.2 - Microwave monolithic integrated circuits (MMIC) power amplifiers

Not monolithic
Integrated circuits



Commerce Control List Supplement No. 1 to Part 774 Category 3—page 5

radio-communications services, but not for radio-determination.

b.1.a. Traveling wave tubes, pulsed or continuous wave, as follows:

b.1.a.1. Operating at frequencies exceeding 31.8 GHz;

b.1.a.2. Having a cathode heater element with a turn on time to rated RF power of less than 3 seconds;

b.1.a.3. Coupled cavity tubes, or derivatives thereof, with a "fractional bandwidth" of more than 7% or a peak power exceeding 2.5 kW;

b.1.a.4. Helix tubes, or derivatives thereof, with any of the following characteristics:

b.1.a.4.a. An "instantaneous bandwidth" of more than one octave, and average power (expressed in kW) times frequency (expressed in GHz) of more than 0.5;

b.1.a.4.b. An "instantaneous bandwidth" of one octave or less, and average power (expressed in kW) times frequency (expressed in GHz) of more than 1; *or*

b.1.a.4.c. Being "space qualified";

b.1.b. Crossed-field amplifier tubes with a gain of more than 17 dB;

b.1.c. Impregnated cathodes designed for electronic tubes producing a continuous emission current density at rated operating conditions exceeding 5 A/cm²;

b.2. Microwave monolithic integrated circuits (MMIC) power amplifiers having any of the following:

b.2.a. Rated for operation at frequencies exceeding 3.2 GHz up to and including 6 GHz and with an average output power greater than 4W (36 dBm) with a "fractional bandwidth" greater than 15%;

b.2.b. Rated for operation at frequencies exceeding 6 GHz up to and including 16 GHz and with an average output power greater than 1W (30 dBm) with a "fractional bandwidth" greater than 10%;

b.2.c. Rated for operation at frequencies exceeding 16 GHz up to and including 31.8 GHz and with an average output power greater than 0.8W (29 dBm) with a "fractional bandwidth" greater than 10%;

b.2.d. Rated for operation at frequencies exceeding 31.8 GHz up to and including 37.5 GHz;

b.2.e. Rated for operation at frequencies exceeding 37.5 GHz up to and including 43.5 GHz and with an average output power greater than 0.25W (24 dBm) with a "fractional bandwidth" greater than 10%; *or*

b.2.f. Rated for operation at frequencies exceeding 43.5 GHz.

Note 1: 3A001.b.2 does not control broadcast satellite equipment designed or rated to operate in the frequency range of 40.5 to 42.5 GHz.

Note 2: The control status of the MMIC whose rated operating frequency includes frequencies listed in more than one frequency range, as defined by 3A001.b.2.a through 3A001.b.2.f, is determined by the lowest average output power control threshold.

Note 3: Notes 1 and 2 following the Category 3 heading for A. Systems, Equipment, and Components mean that 3A001.b.2. does not control MMICs if they are specially designed for

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CCL 3.b.3

- B.3 - Discrete microwave transistors

Not microwave transistors

other applications, e.g., telecommunications, radar, automobiles.

b.3. Discrete microwave transistors having any of the following:

b.3.a. Rated for operation at frequencies exceeding 3.2 GHz up to and including 6 GHz and having an average output power greater than 60W (47.8 dBm);

b.3.b. Rated for operation at frequencies exceeding 6 GHz up to and including 31.8 GHz and having an average output power greater than 20W (43 dBm);

b.3.c. Rated for operation at frequencies exceeding 31.8 GHz up to and including 37.5 GHz and having an average output power greater than 0.5W (27 dBm);

b.3.d. Rated for operation at frequencies exceeding 37.5 GHz up to and including 43.5 GHz and having an average output power greater than 1W (30 dBm); *or*

b.3.e. Rated for operation at frequencies exceeding 43.5 GHz.

Note: The control status of a transistor whose rated operating frequency includes frequencies listed in more than one frequency range, as defined by 3A001.b.3.a through 3A001.b.3.e, is determined by the lowest average output power control threshold.

b.4. Microwave solid state amplifiers and microwave assemblies/modules containing microwave amplifiers having any of the following:

b.4.a. Rated for operation at frequencies exceeding 3.2 GHz up to and including 6 GHz and with an average output power greater than 60W (47.8 dBm) with a "fractional bandwidth" greater than 15%;

b.4.b. Rated for operation at frequencies exceeding 6 GHz up to and including 31.8 GHz and with an average output power greater than 15W (42 dBm) with a "fractional bandwidth" greater than 10%;

b.4.c. Rated for operation at frequencies exceeding 31.8 GHz up to and including 37.5 GHz;

b.4.d. Rated for operation at frequencies exceeding 37.5 GHz up to and including 43.5 GHz and with an average output power greater than 1W (30 dBm) with a "fractional bandwidth" greater than 10%;

b.4.e. Rated for operation at frequencies exceeding 43.5 GHz; *or*

b.4.f. Rated for operation at frequencies above 3.2 GHz and all of the following:

b.4.f.1. An average output power (in watts), P, greater than 150 divided by the maximum operating frequency (in GHz) squared [$P > 150\ W*GHz^2/f_{ghz}^2$];

b.4.f.2. A fractional bandwidth of 5% or greater; *and*

b.4.f.3. Any two sides perpendicular to one another with length d (in cm) equal to or less than 15 divided by the lowest operating frequency in GHz [$d \leq 15\ cm*GHz/f_{ghz}$].

Technical Note: 3.2 GHz should be used as the lowest operating frequency (f_{ghz}) in the formula in 3A001.b.4.f.3., for amplifiers that have a rated operation range extending downward to 3.2 GHz and below [$d \leq 15cm*GHz/3.2\ f_{ghz}$].

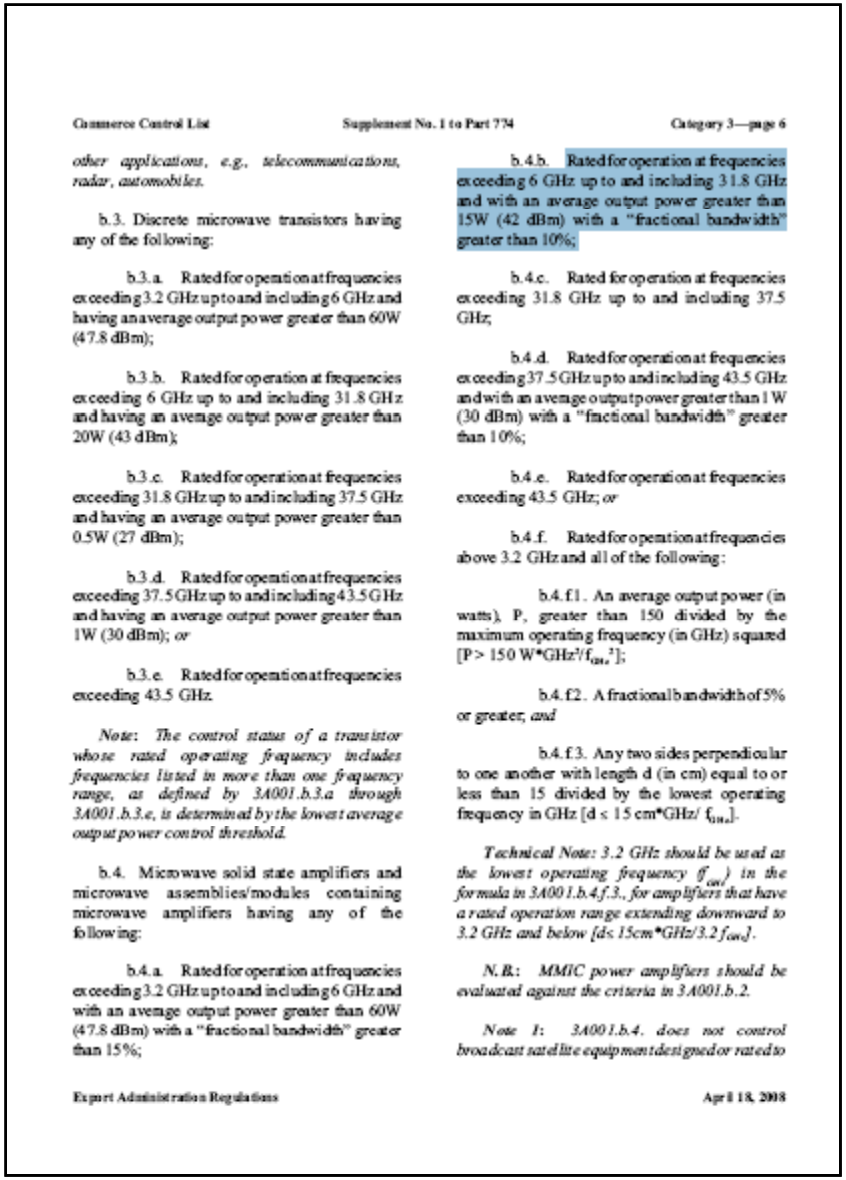
N.B.: MMIC power amplifiers should be evaluated against the criteria in 3A001.b.2.

Note 1: 3A001.b.4. does not control broadcast satellite equipment designed or rated to

CCL 3 .b. 4

- B.4 - Microwave solid state amplifiers and microwave assemblies/ modules containing microwave amplifiers

YES!



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other applications, e.g., telecommunications, radar, automobiles.

b.3. Discrete microwave transistors having any of the following:

b.3.a. Rated for operation at frequencies exceeding 3.2 GHz up to and including 6 GHz and having an average output power greater than 60W (47.8 dBm);

b.3.b. Rated for operation at frequencies exceeding 6 GHz up to and including 31.8 GHz and having an average output power greater than 20W (43 dBm);

b.3.c. Rated for operation at frequencies exceeding 31.8 GHz up to and including 37.5 GHz and having an average output power greater than 0.5W (27 dBm);

b.3.d. Rated for operation at frequencies exceeding 37.5 GHz up to and including 43.5 GHz and having an average output power greater than 1W (30 dBm); *or*

b.3.e. Rated for operation at frequencies exceeding 43.5 GHz.

Note: The control status of a transistor whose rated operating frequency includes frequencies listed in more than one frequency range, as defined by 3A001.b.3.a through 3A001.b.3.e, is determined by the lowest average output power control threshold.

b.4. Microwave solid state amplifiers and microwave assemblies/modules containing microwave amplifiers having any of the following:

b.4.a. Rated for operation at frequencies exceeding 3.2 GHz up to and including 6 GHz and with an average output power greater than 60W (47.8 dBm) with a "fractional bandwidth" greater than 15%;

b.4.b. Rated for operation at frequencies exceeding 6 GHz up to and including 31.8 GHz and with an average output power greater than 15W (42 dBm) with a "fractional bandwidth" greater than 10%;

b.4.c. Rated for operation at frequencies exceeding 31.8 GHz up to and including 37.5 GHz;

b.4.d. Rated for operation at frequencies exceeding 37.5 GHz up to and including 43.5 GHz and with an average output power greater than 1W (30 dBm) with a "fractional bandwidth" greater than 10%;

b.4.e. Rated for operation at frequencies exceeding 43.5 GHz; *or*

b.4.f. Rated for operation at frequencies above 3.2 GHz and all of the following:

b.4.f.1. An average output power (in watts), P, greater than 150 divided by the maximum operating frequency (in GHz) squared [$P > 150\ W*GHz^2/f_{ma}^2$];

b.4.f.2. A fractional bandwidth of 5% or greater, *and*

b.4.f.3. Any two sides perpendicular to one another with length d (in cm) equal to or less than 15 divided by the lowest operating frequency in GHz [$d \leq 15\ cm*GHz/f_{ma}$].

Technical Note: 3.2 GHz should be used as the lowest operating frequency (f_{ma}) in the formula in 3A001.b.4.f.3., for amplifiers that have a rated operation range extending downward to 3.2 GHz and below [$ds 15cm*GHz/3.2 f_{ma}$].

N.B.: MMIC power amplifiers should be evaluated against the criteria in 3A001.b.2.

Note 1: 3A001.b.4. does not control broadcast satellite equipment designed or rated to

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Exercise - Category 4

- Insert picture of category 4,
- Read notes
- Read through headers
- Find disk drives

Exercise – EAR99

Classification Exercise

- Amplifier
  - EAR99
  - 3A001.4.b.4
  - 5D991
- Then talk about related sw, technology.

Classification Example

- Telecom equipment
  - Cisco Product Matrix
- Then talk about related sw, technology.

Exercise

- Do all exports under the EAR must have either an ECCN or be classified as EAR99?
  - True
- When calling other companies to obtain their product classifications, what should you ask for?
  1. Jurisdiction
  2. ECCN
  3. License Exception
  4. CCATS
  5. All of the above

Exercise

- Each ECCN category in the CCL includes:
  a. License requirements.
  b. License exceptions.
  c. Item specific prohibitions.
  d. List of items controlled.
  e. All of the above.

Beth Peterson
Enterprises, Inc.

General Prohibitions

Part 736 EAR

General Prohibitions

- 10 General Prohibitions
- Some apply to all exports
- Some apply to items with ECCN's only

Knowledge Standard

- Certain provisions in the EAR require an exporter to submit an individual validated license application if the exporter "knows" that an export that is otherwise exempt from the validated licensing requirements is for end-uses involving nuclear, chemical, and biological weapons (CBW), or related missile delivery systems, in named destinations listed in the regulations.

General Prohibitions - ECCNs Only

1. You may not export items to listed countries without a license or a license exception.
2. You may not reexport and export from abroad foreign-made items incorporating more than a de minimis amount of controlled U.S. content without a license or a license exception.
3. You may not reexport and export from abroad the foreign produced direct product of U.S. technology and software.

General Prohibitions – EAR99 & ECCNs

4. You may not take any action prohibited by a denial order (EAR99 and ECCNs).
5. You may not knowingly export and reexport items (EAR99 and ECCNs) to certain end-users or end-uses prohibited for nuclear, missile, chemical or biological weapons without a license.
6. You may not export or re-export both EAR99 and ECCN items to embargoed destinations.
7. You may not support proliferation activities if you are a U.S. person for EAR99 and ECCN items.

General Prohibitions

8. You may not export or re-export EAR99 and ECCN items through or transit through certain countries without a license or license exception.
9. You may not violate any term or conditions of any license nor violate any order made under or made part of the EAR for EAR99 and ECCN items.
10. You may not proceed with transactions of EAR99 and ECCN items with knowledge that a violation has or ill occur.

End Use/End User Controls

Current Sanctions

- Cuba – BIS and OFAC
  - Most stringently controlled.

- Iran – BIS and OFAC
  - Comprehensive embargo.
    - OFAC licenses all exports, reexports of CCL items and exports of EAR99 items by U.S. persons.
    - BIS licenses deemed exports and reexports of EAR99 items by non-U.S. persons.

  - **Check Michael Moore case**
  - **Check Update slides**

Current Sanctions

- Iraq – BIS 
  - Removed EAR99 license requirements 7/30/04.
  - Existing controls for:
    - Eight proliferation and explosive related ECCNs.
    - Items destined for military end uses or users.
    - Items controlled for NS, MT, NP, CW, CB, RS, CC, EI or UN reasons.

Current Sanctions

- Libya – BIS
  - Removed licensing requirements for items controlled for AT reasons on 8/31/06.
  - Moved into Country Group D:1, removed from E:1.
  - Libya is now eligible for CIV, ENC, TSU and RPL.
  - Policy change from “deny all”.
  - “Installed base” provision for Libya (Section 764.7 of EAR) remains in place.
    - **Can address prohibition on interacting with “installed base” items with a license or report.**

Current Sanctions

- North Korea - BIS 
  - **Get date**
  - Removed from country group E:1, moved to D:1, D:2, D:3 and D:4.
  - Current sanctions http://www.state.gov/r/pa/prs/ps/2008/oct/110923.htm
  - 11 ECCN's that are used in the nuclear area and are controlled for AT reasons to North Korea only.

Current Sanctions

- Sudan – BIS and OFAC 
  - Comprehensive embargo.
    - OFAC licenses all exports.
    - BIS licenses items on the CCL only.
  - 2/05 BIS amended the EAR to allow humanitarian NGOs to take “tools of the trade” to Sudan under TMP for up to one year.
- Syria – BIS 
  - 5/14/04 General Order No. 2 implemented the Syria Accountability and Lebanese Sovereignty Restoration Act’s (SAA) export control related restrictions.
  - All items subject to the EAR except food and some medicines require a license for export and rexport.
  - General policy of denial.

Exercise

- If you have an item on the CCL, and have determined that a license is not required to the country of destination – what other considerations should you entertain?
  - End use/end user **732, 736 and 738**
- As a U.S. Citizen, can you broker exports of non-U.S. origin items going to a non-U.S. company in the U.K. for nuclear weapons research without applying for a license?
  - No – General Prohibition 7

Exercise

- You receive an order for medical equipment classified under EAR99 from a hospital in Iran. Can you export these items without a license?
  - No – General Prohibition 6

Encryption

United States Encryption Policy

- U.S. Encryption export policy rests on three guiding principles:
  1. Review of encryption products prior to sale.
  2. Streamlined post-exporting requirements.
  3. Licensing review of certain exports and reexports of strong encryption to foreign governments.

Beth Peterson
Enterprises, Inc.

Encryption

- In cryptography, encryption is the process of transforming information (referred to as plaintext) to make it unreadable to anyone except those possessing special knowledge (a key).
- The result of the process is encrypted information (ciphertext).
- Encryption also implicitly refers to the reverse process, decryption (e.g. “software for encryption” can typically also perform decryption), to make the encrypted information readable again (i.e. to make it unencrypted).

Encryption – BIS Definition

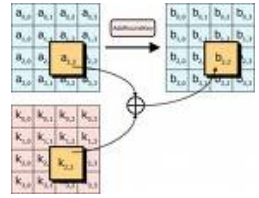
- “Cryptography”. (Cat 5) – The discipline that embodies principles, means and methods for the transformation of data in order to hide its information content, prevent its undetected modification or prevent its unauthorized use. “Cryptography” is limited to the transformation of information using one or more “secret parameters” (e.g., crypto variables) and/or associated key management.

Your Company and Encryption

- You may export encryption software or other encryption products, often embedded in other end item components.
- Examples include:
  - Software.
  - Hardware.
  - Technology

Broad Examples of Encryption

- Algorithms
  - Advanced Encryption Standard (AES), Rivest, Shamir, and Adleman (RSA), elliptic curve cryptography, quantum cryptography.



- Protocols
  - IP Security (IPSec), Secure Socket Layer (SSL), WiFi (IEEE 802.11) / WiMAX (IEEE802.16).

- Applications
  - Wired and wireless communications, open source and commercial software, stored data and data in transit, Virtual Private Network (VPN).

Technology Use and Access

- Release of “technology” to a Foreign National in the U.S.
- This is "deemed" to be an export to the home country or countries of the foreign national and may require a license under the EAR.
  - “Technology”. (General Technology Note)-- Specific information necessary for the “development”, “production”, or “use” of a product. The information takes the form of “technical data” or “technical assistance”.
  - “Use”. (All categories and General Technology Note)-- Operation, installation (including on-site installation), maintenance (checking), repair, overhaul and refurbishing.

ECCN Classification – Many Factors

- Is the encryption algorithm asymmetric or symmetric?
- What is the key length?
- Is the commodity, component or software network infrastructure necessary to activate cryptographic functionality in WAN, MAN, VPN, satellite, digital packet telephony/media (voice, video, data) over internet protocol, cellular or trunked communications with key lengths exceeding 80-bits for symmetric algorithms?

ECCN Classification – Many Factors

- Encryption source code that would not be eligible for export or reexport under License Exception TSU because it is not publicly available and not otherwise eligible for License Exception ENC?
- Is the commodity or software cryptanalytic items?
- Encryption software commodities that have been:
- Been designed, modified, adapted or customized for “government end-user(s)” or government end-use?
  - Cryptographic functionality that has been modified or customized to customer specification?

ECCN Classification – Many Factors

- Cryptographic functionality or “encryption component” that is user-accessible and can be easily changed by the user?
- “Cryptanalytic items”?
- Encryption commodities and software that provide functions necessary for quantum cryptography?
- Encryption commodities and software that have been modified or customized for computers classified under ECCN 4A003?

ECCNs, Controls and License Requirement

- Hardware

ECCN	Controls	License Requirements
5A002	EI, NS, AT	License required for all countries except Canada.
5A992	AT	No license required for all except E:1 countries.

- Software

ECCN	Controls	License Requirements
5D002	EI, NS, AT	License required for all countries except Canada.
5D992	AT	No license required for all except E:1 countries.

Categories of Encryption

- U.S. Government policy tends to group encryption and encryption products into three separate buckets:
  - Mass Market (5A/D992)
  - Unrestricted (5A/D002)
  - Restricted (5A/D002)
- General Technology and Software Note is not applicable to encryption.

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Encryption License Exceptions

License Exception	Type of Products	Class of End-Users	Country	Reporting Req's	Restrictions
TMP - §740.9(a)(2)(i) "Temporary exports - Tools of trade"	Encryption products, including laptops with pre-loaded encryption	Exporters or employees of the exporter	Global, except Country Group E:1**(2)** countries and Sudan	No	- Return in 1 year - Must retain effective control and ownership
TMP - §740.9(a)(2)(iii) "Temporary exports - Exhibition and demonstration"	Encryption products, including laptops with pre-loaded encryption	Exporters, employees of the exporter, or designated sales reps of the exporter	Global, except Country Group E:1	No	- Return in 1 year - Must retain effective control and ownership - No more than 120 days in one location - Cannot be used for their intended purpose, except for minimum extent required for effective demonstration
BAG - §740.14	Encryption products for personal use, including laptops with pre-loaded encryption	U.S. citizens or permanent resident aliens	Global, except Country Group E:1	No	- Personal ownership - Usual and reasonable quantities - Not intended for sale -Intended for a necessary and appropriate use of individuals or members of immediate family traveling with exporter
TMP - §740.9(c) "Beta test software"	Beta test encryption software intended to be "mass marketed" to the general public after completion of beta testing	Certified testing consignees (see §740.9(c)(5))	For beta test encryption software: Global, except Country Group E:1	Yes - See §740.9(c)(8) for notification requirements specific to beta test encryption software	- Refer to §740.9(c). - There are a number of requirements and restrictions, and they apply to all beta test software (including beta test encryption software) subject to the EAR

Encryption License Exceptions

License Exception	Type of Products	Class of End-Users	Country	Reporting Req's	Restrictions
TSU - §740.13(e)	Encryption source code that would be considered "publicly available" (e.g. "open source") and corresponding object code	All	Global, may not knowingly export to Country Group E:1	No	- Notification of the Internet location, or else a copy of the source code, by time of initial export
ENC to countries listed in Supp. No. 3 to part 740 - §740.17(a)	Encryption items (including source code, technology, technical assistance and "open cryptographic interface" (OCI) items)	Government and non-government end-users and subsidiaries	Located in Supplement No. 3 to Part 740 countries (3) (EU “license-free zone”); subsidiaries not located in Country Group E:1	Yes, except as described in §740.17(e)(4)	- Requires ENC review, except for certain internal use transactions for the development of new products (§740.17(a)(1)) - immediate export and reexport upon registration of complete review request - Excludes cryptanalytic items to government end-users
ENC to U.S. subsidiaries - §740.17(b)(1)	Encryption items (includes source code, technology and "open cryptographic interface" - (OCI) items)	U.S. companies and subsidiaries (includes foreign employees, contractors and interns)	Global, except Country Group E:1	No	- No review for any internal company use, including the development of new products - Developed products require review prior to reexport, resale or transfer outside the company
ENC restricted to non-“government end-users” - §740.17(b)(2)	Network infrastructure products, commercial source code, and other specified encryption commodities, software, and components	Non-government end-users	Global, except Country Group E:1	Yes except as described in §740.17(e)(4)	- Requires ENC review - Excludes OCI and technology - A license is required to government end-users outside EU “license-free zone”

Encryption License Requirements

License Exception	Type of Products	Class of End-Users	Country	Reporting Req's	Restrictions
ENC to both "government end-users" and non-"government end-users" - §740.17(b)(3)	Encryption commodities, software, and components	Non-government AND government end-users	Global, except Country Group E:1	Yes except as described in §740.17(e)(4)	- Requires ENC review -Excludes technology, OCI items and those commodities and software that are listed in §740.17(b)(2)(iii)

Previously Reviewed and Bundling

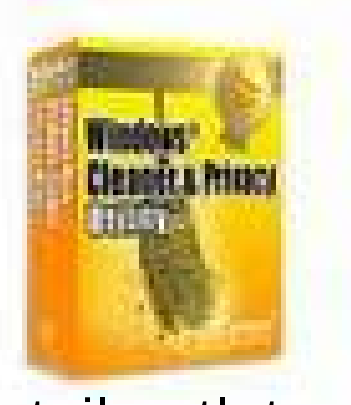
- When two separate items that have previously been reviewed (have a CCATS) are repackaged together, they do not have to be reviewed again.
- Exceptions:
  - If previously reviewed items are combined to create a new product then bundling does not apply.
  - Example Open SSL (5D002 TSU) + Proprietary Crypto SW (5D992 ENC) = new product needing review.

Mass Market Encryption

- BIS determines whether an item is Mass Market, cannot self-classify. Examples:
  - General purpose operating systems.
  - Certain short range wireless devices commodities and software..
  - PDA's and web phones.
  - Commercial of-the-shelf software for PC's.
  - Wireless ''personal area network'' items.
  - ''Ancillary cryptography'' commodities and software.

- Anti-Terrorism (AT) controls only - for all key lengths.
- Notification **no longer** required.
- No reporting required.
- Government and non-government end users.

Unrestricted SW and HW



- Controlled under 5A002 and 5D002.
- AT, EI and NS Controls.
- Sold at large volume typically through electronic or telephone transactions or through retail outlets independent of the manufacturer.
- No substantial support for installation and use.
- Cryptographic functionality can't be easily changed.
- ENC to non-E:1 countries, non-government end users.
- Government end users within Supplement 3 countries for 80 bit or under.
- Review required.
- Post-export reporting requirements apply.

Restricted Software and Hardware

- 740.17(a) Supplement 3 countries only.
- Controlled under 5A002 and 5D002.
- AT, EI and NS Controls.
- Not sold in large volume through electronic or telephone transactions or through retail outlets independent of the manufacturer.
- Does not meet the “no substantial support requirement” for installation and use that is part of the definition of “retail” commodities and software.
- Government and non-government end users.
- Review required.
- Post-export reporting requirements apply.

ENC - Restricted

- Supplement 3 to Part 740
- Added Bulgaria, Canada, Iceland, Romania, and Turkey

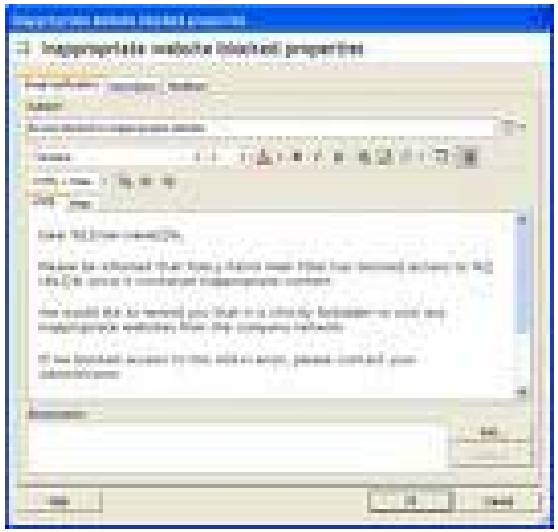
Australia	Greece	Norway
Austria	Hungary	Poland
Belgium	Iceland	Portugal
Bulgaria	Ireland	Romania
Canada	Italy	Slovakia
Cyprus	Japan	Slovenia
Czech Republic	Latvia	Spain
Denmark	Lithuania	Sweden
Estonia	Luxembourg	Switzerland
Finland	Malta	Turkey
France	Netherlands	United Kingdom
Germany	New Zealand	

Encryption Review - Not Required

- Items under 5A992 and 5D992 that are exported to foreign subsidiaries of U.S. companies for any end use, including development.
- Mass Market commodities that would not otherwise fall under Category 5, but are controlled under 5A992 or 5D992 because they incorporate components or software that provide short-range wireless encryption functions (no more than 100 meters).
- Items under 5A992 or 5D992 with limited cryptographic functionality that are not controlled for EI reasons, limited to authentication, digital signature, execution of copy protected software and finance specifying items specially designed for banking use or money transactions.

Notification Required

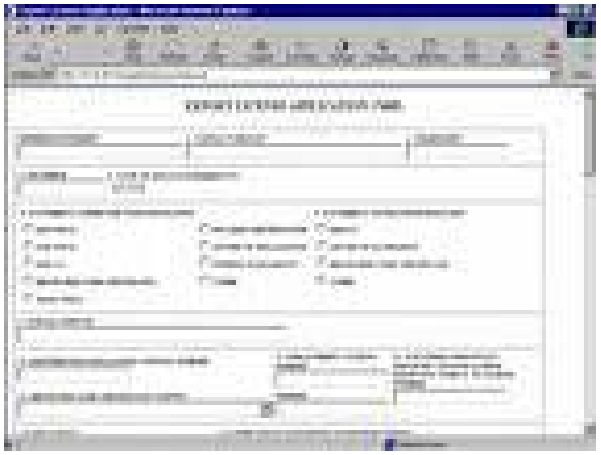
- BIS must receive notification prior to export (post to the Internet) for 5A002 and 5D002:
  - Beta test encryption software.
  - Source Code made publicly available under TSU.
  - Provide URL or copy of source code in notification.



Encryption Review Required

- > 80-bit symmetric encryption
- > 1,024-bit asymmetric encryption
- > 160-bit elliptic curve encryption
- Determine the type of review required – License Exception ENC or NLR (Mass Market)

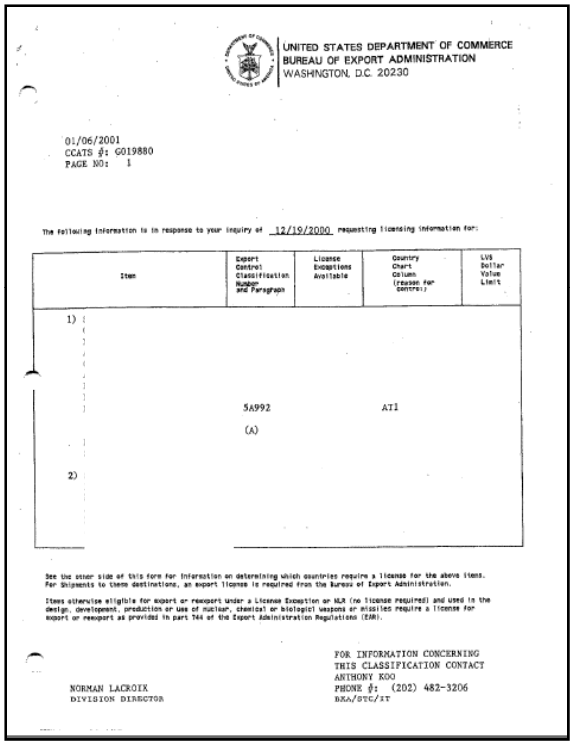
Encryption Review Requests Include:



- Form BIS-748P or SNAP equivalent.
- Supplement 6.
- Supporting documents and URLs.
- Product description, what it's designed to do with particular regard to its security functions.
- Technical and marketing descriptions, data sheets and pictures.
- Full, detailed description of every algorithm used and its key length.
- Best guess at ECCN, license exception and restricted/non-restricted.
- Required to send to both BIS and the ENC Encryption Request Coordinator.

Following Review

- Will receive written communication (CCATS) concerning eligibility for:
  - NLR - Mass market.
  - ENC – Restricted (740.17)(b)(2).
  - ENC – Unrestricted (740.17)(b)(3).
- Mass market items may be exported and rexported without a license (NLR) except for E:1 countries.



UNITED STATES DEPARTMENT OF COMMERCE
BUREAU OF EXPORT ADMINISTRATION
WASHINGTON, D.C. 20230

01/06/2001
CCATS #: G019880
PAGE NO: 1

The following information is in response to your inquiry of 12/19/2000 requesting licensing information for:

Item	Export Control Classification Number and Paragraph	License Exceptions Available	Country Chart Column (reason for control)	LVS Dollar Value Limit
1)	5A992 (A)		AT1	
2)				

See the other side of this form for information on determining which countries require a license for the above items. For Shipments to these destinations, an export license is required from the Bureau of Export Administration.

Items otherwise eligible for export or reexport under a License Exception or NLR (no license required) and used in the design, development, production or use of nuclear, chemical or biological weapons or missiles require a license for export or reexport as provided in part 744 of the Export Administration Regulations (EAR).

NORMAN LACROIX
DIVISION DIRECTOR

FOR INFORMATION CONCERNING
THIS CLASSIFICATION CONTACT
ANTHONY KOO
PHONE #: (202) 482-3206
BXA/STC/IT

Encryption Review – Mass Market

- To meet Mass Market treatment you must show:
  - Generally available to the public, sold:
    - Over-the-counter.
    - Mail order.
    - Electronic downloads.
    - Telephone orders.
  - Cryptographic functionality cannot be easily changed by the user.
  - Designed for installation by user without further substantial support.
  - Must demonstrate ECCNs 5A002 and 5D002 do NOT control items.

Encryption License Requests

- In most cases, item will be eligible for license exception.
- Examples where license is required:
  - Technology controlled under ECCN 5E002 and "open cryptographic interface" items to end-users (except U.S. subsidiaries).
  - Cryptanalytic items to government end-users except Canada.
  - Encryption commodities and software that do not meet the “restricted" criteria.
  - All exports to terrorist supporting or embargoed countries.

Encryption License Requests

- Include a brief technical description in Block 22(j) of 748P.
- Include supporting documents such as technical specifications.
- Include brief letter of explanation which summarizes your proposed transactions.

How Quickly Can I Export?

- Immediately export following registration:
  - To Supplement 3 countries.
  - To foreign subsidiaries of Supplement 3 country companies.
  - To foreign subsidiaries of U.S. companies.
- 30 days after registration:
  - Outside supplement countries.
  - Unless notified by BIS of Hold Without Action (HWA) for more information.
    - 30 days are calendar days.
    - Does not include HWA days.

When Is Reporting Required?

- Use of ENC 740.17 - Review exclusions from reporting requirements 740.17(e)(iii).
  - Semi-annual reporting to BIS and NSA.
    - Product P/N.
    - Product name.
    - Quantity.
    - End user and address/country.
    - CCATS.
- Electronic format (spreadsheets, tabular text or structured text).
- E-Mail to: crypt@bis.doc.gov and enc@nsa.gov or send CDs.

Reporting Exemptions

- Exports (or reexports in to Canada) of internal “development” or “production” of new products.
- Encryption commodities or software with a symmetric key length not exceeding 64 bits.
- 5A/D002 unrestricted shipped to individual consumers.
- Encryption items exported via free and anonymous download.
- Encryption items from or to a financial institution for banking or financial operations.
- Short range wireless encryption functions.

Reporting Exemptions, cont.

- Foreign products developed with or incorporating U.S.-origin encryption source code, components, or toolkits.
- Wireless "personal area network" items.
- Ancillary cryptography.
- Foreign products developed by bundling or compiling of source code.
- General purpose operating systems, or desktop applications.
- Client Internet appliance and client wireless LAN cards.

Use by Non-US Employees

- For development purposes:
  - Restricted:
    - 740.17(a) authorizes export and reexport to foreign subsidiaries and offices of end users headquartered in Canada or to Supplement 3 countries
  - Unrestricted:
    - 740.17(b)(1) authorizes export and reexport to any US subsidiary, and by a US company and its subsidiaries to foreign nationals who are employees, contractors or interns of a US company or its subsidiaries if the items are for internal company use.

Is My Customer a Government End User?

- Included:
  - Certain governmental organizations including those that manufacture or distribute items or services on the Wassenaar Munitions List.
- Excluded:
  - Wholly or partially government-owned organizations that do not manufacture or distribute Wassenaar Munitions List items or services.
  - Telecommunications and Internet service, broadcast or entertainment entities such as radio or television organizations.

Encryption – Final Thoughts

- Tremendously complex topic with volumes of BIS resources.
- Work closely with engineering and IT to ensure proper controls are in place.
- Know whether you must notify, request review or request a license before you export.
- For license exception ENC you need to know restricted/unrestricted status.
- Don’t forget about upgrades and patches.

Exercise – Mass Market Encryption

- You have a mobile device containing short range wireless features – 50 meters. What must you do prior to export?
  - Self classify your product under 5A992, mass market encryption, No License Required (NLR).

Exercise – License Exception ENC

- You have submitted an Encryption Review with BIS. BIS has returned a CCATS that provides you with authorization to export your product under 5D002, license exception ENC as per 740.17(b)(2). Can you ship to government end-users without a license?
  - No, 740.17(b)(2) is ENC – Restricted to Government End-Users.

Exercise – License Exception ENC

- You have hardware that includes an operating system classified under 5D002, ENC, OpenSSL for access control and have developed proprietary code for license management. What do you need to do to export?
  - Request an Encryption Review via SNAP-R.
- Extra credit – what is the classification that you should receive for this hardware?
  - 5A002, ENC, Unrestricted

Beth Peterson
Enterprises, Inc.

Automated Export System

Mandatory AES: What Must I File Through AES?

- All shipments that require an:
  - All ITAR Hardware that requires a DDTC export license.
  - BIS validated export licenses.
- All non-EAR99 commodities exported under same Schedule B # that exceed $2,500 in value.
  - This exemption does not apply to exports: Destined for Cuba, Iran, North Korea*, Sudan and Syria.

Mandatory AES: Exemptions

- Exemptions from the Requirements for Filing Shipper's Export Declarations
  - 30.50 Procedure for shipments exempt from the requirements for Shipper's Export Declarations
  - 30.55 Miscellaneous exemptions
  - 30.56 Conditional exemptions
  - 30.57 Information on export declarations for shipments of types of goods covered by 30.56 not conditionally exempt
  - 30.58 Exemption for shipments from the United States to Canada

How is it Done Today?

- Filing:
  - Majority of Exporters outsource this function to their carriers or freight forwarders
  - Some procure AES software and file themselves
- Timing
  - Some exporters are qualified for Post Departure filing
  - Most must file a specific number of hours prior to departure

Vessel	24 hours (before lading)
Air	4 hours Wheels up from NAFTA and Central and South America above the equator
Rail	2 hours
Truck	1 hour non-Free and Secure Trade (FAST) 30 minutes FAST

Automated Export System Methods of Filing

- Self Filer
  - AES Direct
  - PC Link
  - GTM Software
  - Proprietary software (AESTIR)
- Outsourced Filer
  - Agent's Software

AES Filing Options

- Option 1 – Pre-departure filing
- Option 2 – Post-departure filing
  - Only companies previously approved companies can use option 2.
  - No new companies are being granted option 2 benefits.
- AES allows you to report estimated information and then update that estimated data with the accurate information once it is known.
- AESTIR Appendix V – HTS Numbers that Cannot be Reported in AES.

Mandatory AES: How does it work?

- Using AES or *AESDirect* the exporter or authorized filing agent transmits shipper export data through CBP to Census.
- AES validates the data and generates either a shipment confirmation number or an error message back to the filer.
- Carrier matches XTN or ITN information with its own electronic data filing for transmission of carrier manifest information

Mandatory AES: Shipping Documents

- Commercial invoice, air waybill, or ocean BL, with:
  - appropriate exemption statement, and if required
  - External Transaction Number (XTN) or
  - Internal Transaction Number (ITN)

ITN Numbers

- ITN provides a link to a create date and time for the record in AES to verify compliance with pre-departure filing requirements.

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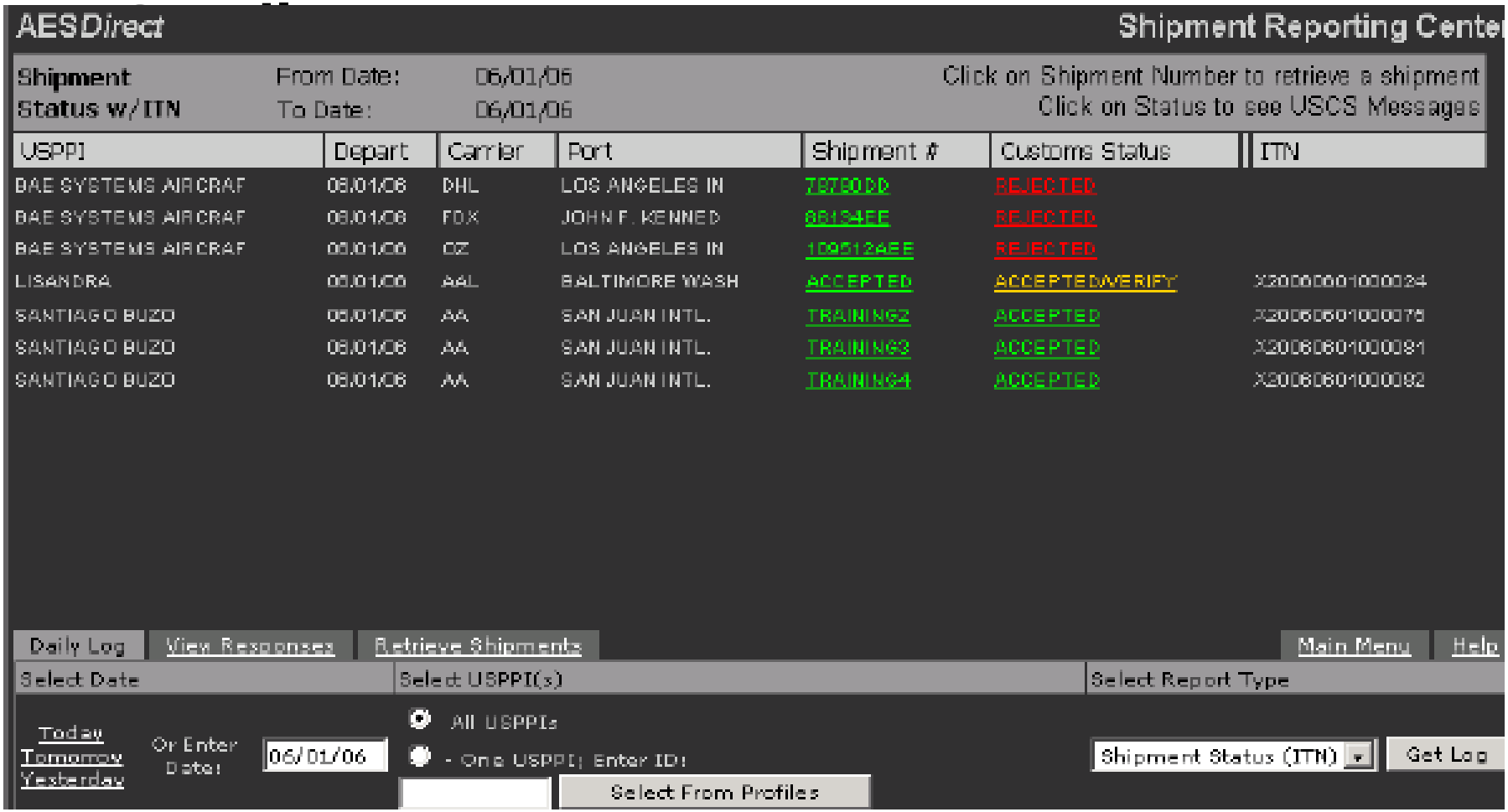


Authorized Agent Best Practices

- Transmit or provide your service provider with all of the AES information for each shipment:
  - EDI
  - SLI
- Request a copy of the AES filing for each shipment.
- Audit the service provider filings and review the findings with them.

AES – Internal Audit

- Are the parties to the transaction correct?
  - USPPI
  - EIN numbers
  - Related parties
- Trackable shipment reference number?
- Are the HTS/ECCN classifications accurate?

Implications - New Census Penalties

- Failure to file and late filings
  - $1,000 per each day of delinquency, to a maximum from $1,000 to $10,000 per violation
  - Non-filing violations = False Information
  - Civil Penalties = $10,000 per violation
  - Criminal Penalties = $10,000 per violation and/or 5 years in jail
- Reports or uses AES to further illegal activities= $10,000 per violation and/or 5 years in jail

Shipper's Export Declaration (SED)

- Required for:
  - All export shipments valued over $2,500 per individual HTS number from the United States to foreign countries or areas excluding:
    - Canada (except as noted below)
  - All licensed shipments regardless of value, including those to Canada.
  - All exports over $2,500 from the United States through Canada destined to a country other than Canada, i.e., transshipments.
  - All export shipments over $2,500 to and from Puerto Rico and to the U.S. Virgin Islands.
- Electronic filing is mandatory.

Julie, you'll probably Want to delete this Since its in your section

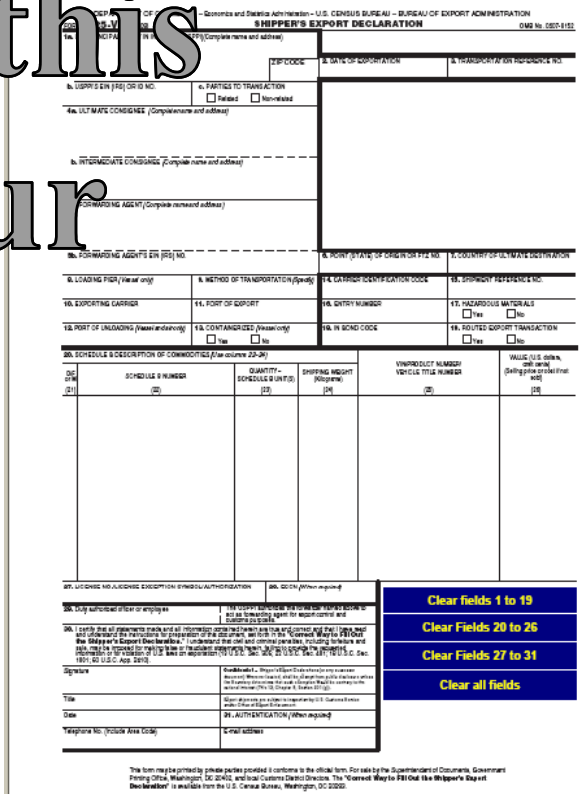
Automated Export System (AES)

- USPPI
  - Exporter or authorized agent files AES
  - Agent must have a Power of Attorney to file AES.
  - Retain a copy of the SED or AES or EEI and ITN number.
- Routed Export Transactions
  - AES filing performed by customer or forwarder.
  - SLI not required

Julie, you'll probably Want to delete this Since its in your section

U.S. Census Bureau
Trade Statistics

Export Control



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Enterprises, Inc.

Routed Export Transactions

Routed Export Transactions

- Contractual relationship between the parties that creates a "routed" transaction.
- Transfer the export licensing responsibility from the USPPI to the FPPI then you need the writing required from the EAR.
- FPPI agrees to take on the responsibility of the EEI filing and the license determination.
- US seller is only responsible for providing information about the shipment (i.e., classification, value, license authorization, quantity, weight, etc.) to either the foreign party or the broker/forwarder.

"Exporter" under the EAR and the FTSR

EAR 15 [15 CFR 758.3]	FTSR [15 CFR 30.4]
Exporter = USPPI--person in the U.S. who has the authority of a principal party in interest to determine and control the sending of items out of the U.S. <u>USPPI can be either:</u> USPPI or Forwarding or agent of principal party in interest Important Note: In a routed export transaction and for purposes of licensing responsibility under the EAR, the forwarding or other agent of the FPPI can be the "exporter" or applicant on the license.	Exporter = always the USPPI-- person in the U.S. that received the primary benefit, monetary or otherwise, of the export transaction. <u>USPPI can be either:</u> U.S. Seller Manufacturer Order Party Foreign entity Important note: The freight forwarder is NEVER the USPPI on the SED/AES.

Beth Peterson
Enterprises, Inc.

Responsibilities of Parties when filing the SED/AES

	NORMAL EXPORT TRANSACTION	ROUTED EXPORT TRANSACTION
U.S. Principal Party in Interest	• Prepare SED/AES record OR authorize a freight forwarder or other agent to prepare and file the SED/AES record, **with a power of attorney**, written authorization, or signing the authorization on the SED. • If authorizing a freight forwarder or other agent: provide information to such agent for completing the SED/AES record. • Maintain documentation to support the information reported on the SED/AES record.	• Provide basic information to the forwarder or other agent necessary for completing the SED/AES record, including: 1. Name, Address, IRS, EIN of the USPPI 2. Point of origin 3. Schedule B description of commodities 4. Schedule B Number 5. Quantity/ unit of measure/ Value 6. Upon request from the FPPI or its agent, the Export Control Classification Number OR sufficient technical information to determine the ECCN. • Maintain documentation to support information provided to the forwarding or other agent.
Freight Forwarder or other agent	• Prepare SED/AES record based on information received from the USPPI. • Obtain POA, written authorization, or signed authorization on the paper SED from USPPI. • Provide the USPPI with a copy of the export information filed in the form of a completed SED, electronic facsimile, or in a manner prescribed by the USPPI. • Maintain documentation to support information reported on the SED/AES record.	• Prepare, sign, and file SED/ AES based on information obtained from the USPPI. • Obtain a POA or written authorization from the FPPI to act on its behalf in the export transaction. • Maintain documentation to support information reported on the SED/AES. • Upon request, provide the USPPI with documentation that the information provided by the USPPI was accurately reported on the SED/AES record. **Important Note:** **1. In routed export transaction, the Seller must always be listed as the USPPI in the SED/AES record** **2. The forwarder will never appear as the USPPI on the SED/AES.**

Closing

Translating your Export Responsibilities

- Increased revenue through
  - Access to all markets as a result of compliance.
- Customer Retention through:
  - Accurate classification and licensing of products.

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BP2 Corrected a typo
Beth Peterson, 11/3/2008

Corporate Impact

- Accelerate your supply chain.
- Increase corporate profit.
- Decrease cost of goods.
- Establish competitive advantage.
- Drive executive decisions.

Business information can and should be used to outthink rivals

Beth Peterson
Enterprises, Inc.

- **Global Trade Strategy Development**
- **Global Trade Technology Assessment**
- **Import Procedure Development**
- **Export Procedure Development**
- **Security Standards and Implementation**
- **Global Trade Audit Services**

- **Online Training Services**
- **Instructor Led Workshops and Seminars**
- **Learning Management System Services**
- **Customized Training Development**

BPE Standards of Excellence

- At BPE we:
  - Partner with you to achieve your objectives
  - Embrace the global nature of your business
  - Are an extension of your team
  - Make you more competitive
  - Empower you to succeed
  - Deliver solutions for your business needs
  - Leverage technology, delivering a superior product
  - Are compliance driven

Additional Advanced EAR Materials

- www.bpeglobal.com
  - Login: BPEADVEAR
  - Password: exp0rt

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BP3 Added this new page
Beth Peterson, 11/3/2008

ENABLING COMPANIES TO SUCCEED GLOBALLY THROUGH CONSULTING AND TRAINING