

Examples of control items

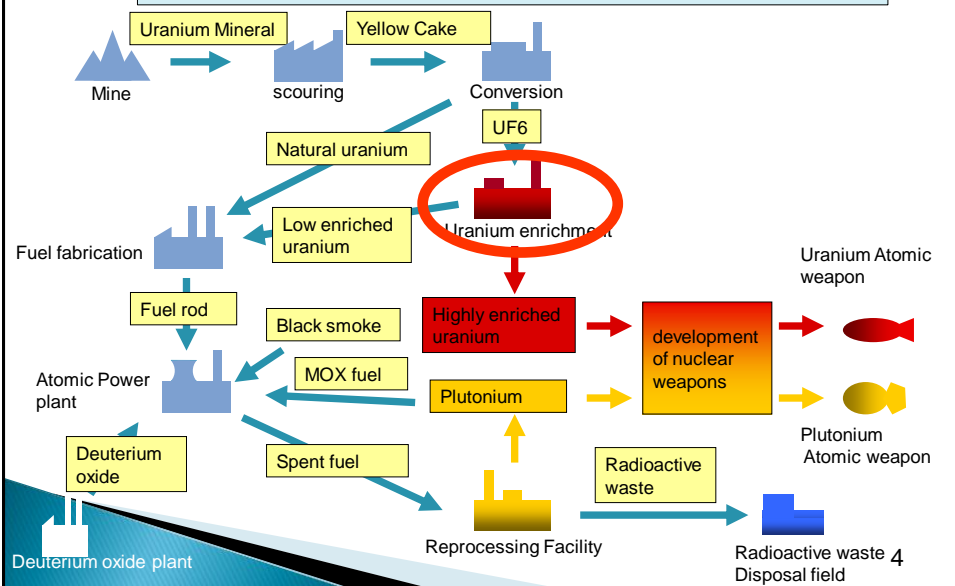
Office of International Affairs for Security Export Control,
Trade and Economic Cooperation Bureau,
Ministry of Economy, Trade and Industry (METI)

Contents

- in the case of Nuclear Weapons
- in the case of Computers
- in the case of Cryptography

Examples of control items - in the case of Nuclear Weapons

Concentration Process is important for development of nuclear weapons

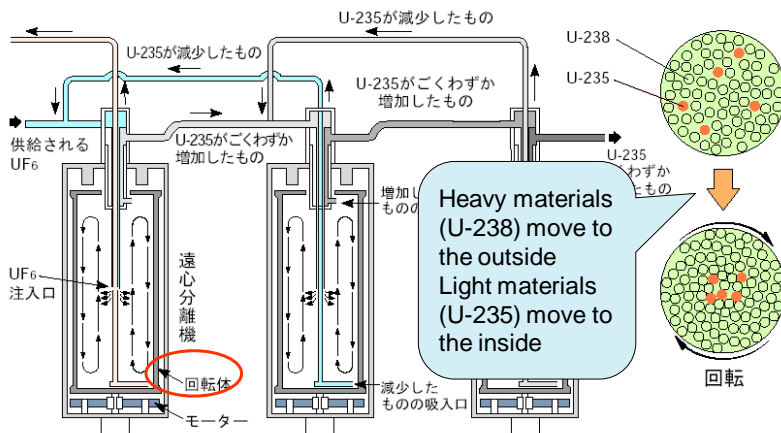


Centrifugal machine used for Concentration of Uranium

Concentration of Uranium is increased by using many Centrifugal machines.



Uranium concentrated by Centrifugal force



Machine tool

The Machine Tool is a machine which produces machine parts. Computer Numerical Control (CNC) control the movement and speed of the cutting tool. Therefore it can process complex shapes.



Military use

Used for processing parts for Centrifugal machines

Civilian use

Used for processing automobile parts and general machine parts, which must be highly control

✂It is controlled in NSG and WA.

1.B.2. Machine tools, as follows, and any combination thereof, for removing or cutting metals, ceramics, or composites, which, according to the manufacturer's technical specifications, can be equipped with electronic devices for simultaneous "contouring control" in two or more axes:

...

a. Machine tools for turning, that have "positioning accuracies" with all compensations available better (less) than 6 μm according to ISO 230/2 (1988) along any linear axis (overall positioning) for machines capable of machining diameters greater than 35 mm;

...

b. Machine tools for milling, having any of the following characteristics:

1. "Positioning accuracies" with all compensations available better (less) than 6 μm according to ISO 230/2 (1988) along any linear axis (overall positioning);
2. Two or more contouring rotary axes; or
3. Five or more axes, which can be coordinated simultaneously for "contouring control"

...

Extraction from NSG guideline (part2)

<http://www.nuclearsuppliersgroup.org/Leng/PDF/infirc254r7p2-060320.pdf>

Deregulation related Machine tool

Need the End-user Certification for items related WMDs

In case we re-sell, re-transfer, or re-export the goods and their replicas, or re-transfer the technology and software owing to unavoidable circumstances, end-user shall obtain a prior written consent from exporter and METI.



Equipment to detect re-transfer

Need password for re-transfer



Deregulation of the certification

Carbon Fiber

The characteristic of Carbon Fiber is abrasion resistance, heat resisting properties, acid resistance, electrical conduction property. And it also very light.



Military use

Constructional material for rotors of Centrifugal machines

Civilian use

golf club shafts, tennis rackets

※It is controlled in NSG and WA.

※Resaturated pyrolised (i.e. carbon-carbon) components are controlled in MTCR.

2.C.7. "Fibrous or filamentary materials", and preregs, as follows:
 a. Carbon or aramid "fibrous or filamentary materials" having either of the following characteristics:

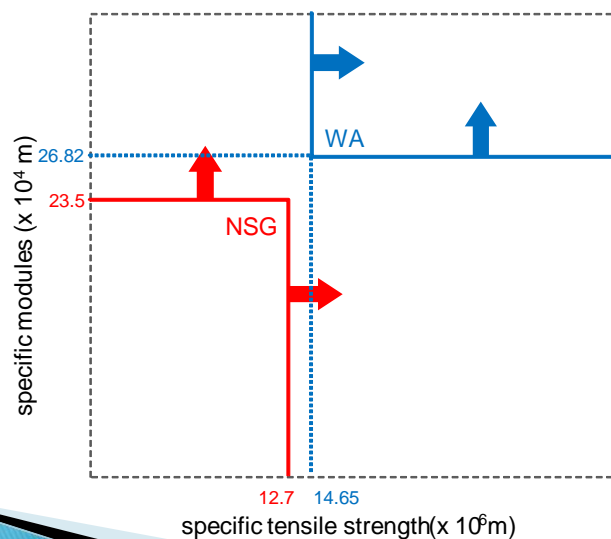
1. A "specific modulus" of 12.7×10^6 m or greater; or
2. A "specific tensile strength" of 23.5×10^4 m or greater;

Note: Item 2.C.7.a. does not control aramid "fibrous or filamentary materials" having 0.25% or more by weight of an ester based fiber surface modifier.

Extraction from NSG guideline (part2)

<http://www.nuclearsuppliersgroup.org/Leng/PDF/infirc254r7p2-060320.pdf>

Regulated Carbon Fiber in NSG and WA



Examples of Control Items - in the case of Computers

Computers

Is your PC controlled?

4.A.1. Electronic computers and related equipment, having any of the following and "electronic assemblies" and specially designed components therefore:

a. Specially designed to have any of the following:

1. Rated for operation at an ambient temperature below 228 K (-45° C) or above 358 K (85° C); or

Under severe conditions

...

2. Radiation hardened to exceed any of the following specifications:

- a. Total Dose 5 x 10³ Gy (Si);
- b. Dose Rate Upset 5 x 10⁶ Gy (Si)/s; or
- c. Single Event Upset 1 x 10⁻⁷ Error/bit/day.

...

4.A.3. "Digital computers", "electronic assemblies", and "electronic assemblies" and specially designed components therefore, as follows and specially designed components therefore:

High performance

...

4.A.3.b. "Digital computers" having an 'Adjusted Peak Performance' ('APP') exceeding 1.5 Weighted TeraFLOPS (WT);

Examples of Control Items - in the case of Cryptography

Cryptography

Cryptography is to transform words or symbols into other words or symbols according to a defined procedure.

Cryptography are controlled because of the use for concealment of Military information.

It is also used for Civilian use, which are extended rapidly.

It is hard to define uses of Cryptography.

<Military use>

Military Information

<Civilian use>

PC, game

Credit card : name, price of goods or service

Smart card (electronic wallet, SIM card)

: the balance, name, telephone number



Cryptography is controlled by 'Negative List System' which means that all subjects to have defined specs without some defined exceptions are controlled.

Cryptography

5.A. 2. "Information security" systems, equipment and components
5.A.2.a.1.a. A "symmetric algorithm" employing a key length or

Controlled specs

- b. An "asymmetric algorithm" where the security of the algorithm is based on any of the following:
1. Factorisation of integers in excess of 512 bits (e.g., RSA);
 2. Computation of discrete logarithms in a multiplicative group of a finite field of size greater than 512 bits (e.g., Diffie- Hellman over Z/pZ); or

Exception use which means only civilian use

- Note** 5.A.2. does **not apply** to any of the following:
- a. Smart cards and smart card 'readers/writers' as follows:
 1. A smart card or an electronically readable personal document (e.g., token coin, e-passport) that meets any of the following:
 - b. Having all of the following:
 1. It is specially designed and limited to allow protection of 'personal data' stored within;

Extraction from WA list (Category 5 - Part 2)
<http://www.wassenaar.org/controllists/index.html>

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Additional Exceptions

If you have an overseas business trip and you bring a PC with controlled cryptography, ...

Part 2 - "INFORMATION SECURITY"

For Personal use

...
Note 2 Category 5 – Part 2 does **not apply** to products when accompanying their user for the user's personal use.

Note 3 Cryptography Note

For Goods on the market

- 5.A.2. and 5.D.2. **do not apply** to items that meet all of the following:
- a. Generally available to the public by being sold, without restriction, from stock at retail selling points by means of any of the following:
 1. Over-the-counter transactions;
 2. Mail order transactions;
 3. Electronic transactions; or
 4. Telephone call transactions;
 - b. The cryptographic functionality cannot easily be changed by the user;
- ...

Extraction from WA list (Category 5 - Part 2)
<http://www.wassenaar.org/controllists/index.html>

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**Thank you
for your attention.**

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