### ANNEX I

#### Goods and technology referred to in Article 2

Note:

Where possible, the items in this Annex are defined by reference to the list of dual-use items set out in Annex I to Regulation (EC) No 1334/2000. If an item in this Annex is not identical to an item included in that Annex, the reference number taken from the list of dual-use items is preceded by 'ex' and the description of the goods or technology found in this Annex shall be decisive.

I.A. Goods

•••

I.B. Technology

•••

#### ANNEX II

### Goods and technology referred to in Article 3

Notes:

- 1. Unless otherwise stated, reference numbers used in the column below entitled 'Description' refer to the descriptions of dual-use items and technology set out in Annex I to Regulation (EC) No 1334/2000.
- 2. A reference number in the column below entitled 'Related item from Annex I to Regulation (EC) No 394/2006' means that the characteristics of the item described in the column 'Description' lie outside the parameters set out in the description of the dual-use entry referred to.
- 3. Definitions of terms between 'single quotation marks' are given in a technical note to the relevant item.
- 4. Definitions of terms between 'double quotation marks' can be found in Annex I to Regulation (EC) No 394/2006.
- II.A. GOODS

A0

No	Description	Related item from Annex I to Regulation (EC) No 394/2006	
II.A0.001	Hollow cathode lamps as follows: a. Iodine hollow cathode lamps with windows in pure silicon or quartz		

## NUCLEAR MATERIALS, FACILITIES, AND EQUIPMENT

	b. Uranium hollow cathode lamps	
II.A0.002	Faraday isolators in the wavelength range 500–650 nm	
II.A0.003	Optical gratings in the wavelength range 500–650 nm	
II.A0.004	Optical fibres in the wavelength range 500– 650 nm coated with anti- reflecting layers in the wavelength range 500–650 nm and having core diameter greater than 0,4 mm but not exceeding 2 mm	
II.A0.005	Nuclear reactor vessel components and testing equipment, other than those specified in 0A001, as follows: 1. Seals 2. Internal components 3. Sealing, testing and measurement equipment	0A001
II.A0.006	Nuclear detection systems for detection, identification or quantification of radioactive materials and radiation of nuclear origin and specially designed components therefor, other than those specified in 0A001.j or 1A004c	0A001.j 1A004.c
II.A0.007	Bellows-sealed valves made of aluminium alloy or stainless steel type 304 or 316 L. Note: This item does not control bellow valves defined in 0B001.c.6 and 2A226	0B001.c.6 2A226
II.A0.008	Plane, convex and concave mirrors, coated with high- reflecting or controlled multi- layers in the wavelength range 500 nm-650 nm	0B001.g.5

II.A0.009	Lenses, polarisers, half-wave retarder plates ( $\lambda/2$ plates), quarter-wave retarder plates ( $\lambda/4$ plates), laser windows in silicon or quartz and rotators, coated with anti-reflecting layers in the wavelength range 500–650 nm	0B001.g
II.A0.010	Pipes, piping, flanges, fittings made of, or lined with nickel or nickel alloy containing more than 40 % nickel by weight, other than those specified in 2B350.h.1.	2B350
П.А0.011	Vacuum pumps other than those specified in 0B002.f.2. or 2B231, as follows:—Turbomolecular pumps having a flowrate equal to or greater than 400 l/s—Roots-type vacuum roughing pumps having a volumetric aspiration flowrate greater than 200 m³/ hBellows-sealed, scroll, dry compressor, and bellows sealed, scroll, dry vacuum pumps	0B002.f.2 2B231
II.A0.012	Shielded enclosures for the manipulation, storage and handling of radioactive substances (hot cells).	0B006
II.A0.013	'Natural uranium' or 'depleted uranium' or thorium in the form of metal, alloy, chemical compound or concentrate and any other material containing one or more of the foregoing, other than those specified in 0C001.	0C001

# A1

# MATERIALS, CHEMICALS, 'MICRO-ORGANISMS' AND 'TOXINS'

No	Description	Related item from Annex I to Regulation (EC) No 394/2006
II.A1.001	Bis(2-ethylhexyl) phosphoric acid (HDEHP or D2HPA) CAS 298-07-7 solvent in any quantity, with a purity greater than 90 %	
II.A1.002	Fluorine gas (Chemical Abstract Number (CAS) 7782-41-4), with a purity greater than 95 %	
II.A1.003	Seals and gaskets made of any of the following materialsa.Copolymers of vinylidene fluoride having 75 % or more beta crystalline structure without stretching;b.Fluorinated polyimides containing 10 % by weight or more of combined fluorine;c.Fluorinated phosphazene elastomers containing 30 % by weight or more of combined fluorine;d.Polychlorotrifluoroet (PCTFE, e.g. Kel-F ®);e.Viton fluoro- elastomers;f.Polytetrafluoroethyle (PTFE).	
II.A1.004	Personal equipment for detecting radiation of nuclear origin, including personal dosimeters Note: This item does not control nuclear detection systems defined in item 1A004.c	1A004.c

II.A1.005	Electrolytic cells for fluorine production with an output capacity greater than 100 g of fluorine per hour. Note: This item does not control electrolytic cells defined in item 1B225	1B225
II.A1.006	Platinised catalysts, other than those specified in 1A225, specially designed or prepared for promoting the hydrogen isotope exchange reaction between hydrogen and water for the recovery of tritium from heavy water or for the production of heavy water and substitutes therefor.	1B231, 1A225
II.A1.007	Aluminium and its alloys, other than those specified in 1C002.b.4 or 1C202.a, in crude or semi-fabricated form having either of the following characteristics: a.a.Capable of an ultimate tensile strength of 460 MPa or more at 293 K (20 °C); orb.Having a tensile strength of 415 MPa or more at 298 K (25 °C).	1C002.b.4 1C202.a
II.A1.008	Magnetic metals, of all types and of whatever form, having an initial relative permeability of 120 000 or more and a thickness between 0,05 and 0,1 mm	1C003.a
II.A1.009	<ul> <li>'Fibrous or filamentary materials' or prepregs, as follows:</li> <li>a. Carbon or aramid 'fibrous or filamentary materials' having either of the following characteristics:</li> <li>1. A 'specific</li> </ul>	1C010.a, 1C010.b, 1C210.a, 1C210.b

	pitch-im	pregnated fibres s), metal or carbon-	
II.A1.010	control f materials 1C010.a and 1C2 Resin-in pitch-im	npregnated or pregnated fibres	1C010.e, 1C210
	b.	$\begin{array}{c} modulus'\\ exceeding\\ 10\times10^6\\ m; \ or\\ 2. \qquad A\\ `specific\\ tensile\\ strength'\\ exceeding\\ 17\times10^4\\ m;\\ Glass `fibrous\\ \end{array}$	

Status: Point in time view as at 06/06/2007.

5 B	Status: Point in time view as at 06/06/200/ ation: There are currently no known outstan (EC) No 423/2007 (repealed). (See end of I	nding effects for the
5 B	•	nding effects for the Document for details)
	<ul> <li>aircraft structures or laminates, in which the size of individual sheets of prepreg does not exceed 50 cm × 90 cm;</li> <li>c. Prepregs specified in 1C010.a., 1C010.b. or 1C010.c., when impregnated with</li> </ul>	
	phenolic or epoxy resins having a glass transition temperature (Tg) less than 433 K (160 °C) and a cure temperature lower than the glass transition temperature. Note: This item does not control fibrous or filamentary	
	materials defined in item 1C010.e	10102
II.A1.011	Reinforced silicon carbide ceramic composites usable for nose tips, re-entry vehicles, nozzle flaps, usable in 'missiles', other than specified in 1C107.	1C107
II.A1.012	Maraging steels, other than those specified in 1C116 or 1C216, 'capable of' an	1C216

Status: Point in time view as at 06/06/2007.
Changes to legislation: There are currently no known outstanding effects for the
Council Regulation (EC) No 423/2007 (repealed). (See end of Document for details)

	ultimate tensile strength of 2 050 MPa or more, at 293 K (20 °C). Technical Note: The phrase maraging steel 'capable of' encompasses maraging steel before or after heat treatment.	
II.A1.013	Tungsten, tantalum, tungsten carbide, tantalum carbide and alloys, having both of the following characteristics: a. In forms having a hollow cylindrical or spherical symmetry (including cylinder segments) with an inside diameter between 50 mm and 300 mm; and b. A mass greater than 5 kg. Note: This item does not control tungsten, tungsten carbide and alloys defined in item 1C226	1C226

# A2

# MATERIALS PROCESSING

No	Description	Related item from Annex I to Regulation (EC) No 394/2006	
II.A2.001	Vibration test systems, equipment and components therefor, other than those specified in 2B116: a. Vibration test systems employing feedback or closed loop techniques and incorporating a digital controller, capable of vibrating a system at an acceleration equal to or greater than 0,1g rms between 0,1 Hz and 2 kHz and imparting	2B116	

Status: Point in time view as at 06/06/2007.

	<b>ution:</b> There are currently no known outstan (EC) No 423/2007 (repealed). (See end of L	
0	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
	<ul> <li>forces equal to or greater than 50 kN, measured 'bare table';</li> <li>b. Digital controllers, combined with specially designed vibration test software, with a 'real-time bandwidth' greater than 5 kHz designed for use with vibration test systems specified in</li> </ul>	
	a.; c. Vibration thrusters (shaker units), with or without associated amplifiers, capable of imparting a force equal to or greater than 50 kN, measured 'bare table', and usable in vibration test systems specified in	
	<ul> <li>a.;</li> <li>d. Test piece support structures and electronic units designed to combine multiple shaker units in a system capable of providing an effective combined force equal to or greater than 50 kN, measured 'bare table', and usable in vibration systems specified in a.</li> <li>Technical note: 'bare table' means a flat table, or surface, with no fixture or fittings.</li> </ul>	
II.A2.002	Machine tools for grinding having positioning accuracies with 'all compensations	2B201.b, 2B001.c
	available' equal to or less	

Status: Point in time view as at 06/06/2007.
Changes to legislation: There are currently no known outstanding effects for the
Council Regulation (EC) No 423/2007 (repealed). (See end of Document for details)

	(better) than 15 µm to ISO 230/2 (198 national equivalen any linear axis. Note: This item d control machine to grinding defined in 2B201.b and 2B0	38) (1) or nts along oes not ools for in items	
II.A2.002a	Components and controls, specially for machine tools in 2B001, 2B201, II.A2.002 above.	designed specified	
П.А2.003	or modi for dent other mo equipmo	t as follows: ng ss, designed fied al or edical ent, having bllowing	

	Status: Point in time view as at 06/06/2007 oges to legislation: There are currently no known outstan l Regulation (EC) No 423/2007 (repealed). (See end of L	nding effects for the
II.A2.004	of 0,2 g mm per kg of rotor mass; b. Indicator heads designed or modified for use with machines specified in a. above. Technical note: Indicator heads are sometimes known as balancing instrumentation. Remote manipulators that can be used to provide remote actions in radiochemical separation operations or hot cells, other than those specified in 2B225, having either of the following characteristics: a. A capability of penetrating 0,3 m or more of hot cell wall (through the wall operation); or b. A capability of bridging over the top of a hot cell wall with a thickness of 0,3 m or more (over the wall operation). Technical note: Remote manipulators provide translation of human operator actions to a remote operating arm and terminal fixture. They may be of 'master/ slave' type or operated by joystick or keypad.	2B225
II.A2.005	Controlled atmosphere heat treatment furnaces, as follows: Furnaces capable of operation at temperatures above 400 °C.	2B226, 2B227
II.A2.006	Oxidation furnaces capable of operation at temperatures above 400 °C	2B226, 2B227

II.A2.007	'Pressure transducers', other than those defined in 2B230, capable of measuring absolute pressures at any point in the range 0 to 200 kPa and having both of the following characteristics: a. Pressure sensing elements made of or protected by	2B230
	<ul> <li>b) protected by</li> <li>'Materials resistant to corrosion by UF<sub>6</sub>', and</li> <li>b. Having either of the following characteristics:</li> <li>1. A full</li> </ul>	
	scale of less than 200  kPa and an 'accuracy' of better than $\pm$ 1 % of full	
	2. Scale; or 2. A full scale of 200 kPa or greater and an 'accuracy' of better than 2 kPa	
	kPa. Technical note: For the purposes of 2B30, 'accuracy' includes non- linearity, hysteresis and repeatability at ambient temperature.	
II.A2.008	Liquid-liquid contacting equipment (mixer-settlers, pulsed columns, centrifugal contactors); and liquid distributor, vapour distributor or liquid collectors designed for such equipment, where all surfaces that come in direct contact with the chemical(s) being processed are made	2B350.e

	Status: Point in time view as at 06/06/2007. hanges to legislation: There are currently no known outstanding effects for the ncil Regulation (EC) No 423/2007 (repealed). (See end of Document for details)
	from any of the following materials: 1. Alloys with more than 25 % nickel and 20 % chromium by weight; 2. Fluoropolymers; 3. Glass (including vitrified or enamelled coating or glass lining); 4. Graphite or 'carbon graphite'; 5. Nickel or alloys with more than 40 % nickel by weight; 6. Tantalum or tantalum alloys; 7. Titanium or titanium alloys; 8. Zirconium alloys; or 9. Stainless steel. Technical note: 'Carbon graphite' is a composition consisting of amorphous carbon and graphite, in which the graphite content is 8 % or more by weight.
П.А2.009	Industrial equipment and components, other than those specified in 2B350.d, as follows: Heat exchangers or condensers with a heat transfer surface area greater than 0,05 m², and less than 30 m²; and tubes, plates, coils or blocks (cores) designed for such heat exchangers or condensers, where all surfaces that come in direct contact with the fluid(s) are made from any of the following materials: 1. Alloys with more than 25 % nickel and 20 % chromium by weight; 2. Fluoropolymers;2B350.d

Status: Point in time view as at 06/06/2007.
Changes to legislation: There are currently no known outstanding effects for the
Council Regulation (EC) No 423/2007 (repealed). (See end of Document for details)

	<ol> <li>Glass (including vitrified or enamelled coatings or glass lining);</li> <li>Graphite or 'carbon graphite';</li> <li>Nickel or alloys with more than 40 % nickel by weight;</li> <li>Tantalum or tantalum alloys;</li> <li>Titanium or titanium alloys;</li> <li>Silicon carbide;</li> <li>Titanium carbide; or 11. Stainless steel.</li> <li>Note: This item does not control vehicle radiators.</li> </ol>	
II.A2.010	Multiple-seal, and seal-less pumps, other than those specified in 2B350i, suitable for corrosive fluids, with manufacturer's specified maximum flow-rate greater than 0,6 m <sup>3</sup> /hour, or vacuum pumps with manufacturer's specified maximum flow- rate greater than 5 m <sup>3</sup> /hour (measured under standard temperature (273 K (0 °C)) and pressure (101,3 kPa) conditions); and casings (pump bodies), preformed casing liners, impellers, rotors or jet pump nozzles designed for such pumps, in which all surfaces that come in direct contact with the chemical(s) being processed are made from any of the following materials: 1. Stainless steel, 2. Aluminium alloy.	2B350.i
II.A2.011	Centrifugal separators, capable of continuous separation without the propagation of aerosols and manufactured from:	2B352.c

	Status: Point in time view as at 06/06/2007. The construction of the currently no known outstanding effects for the Regulation (EC) No 423/2007 (repealed). (See end of Document for details)
	<ol> <li>Alloys with more than 25 % nickel and 20 % chromium by weight;</li> <li>Fluoropolymers;</li> <li>Glass (including vitrified or enamelled coating or glass lining);</li> <li>Nickel or alloys with more than 40 % nickel by weight;</li> <li>Tantalum or tantalum alloys;</li> <li>Titanium or titanium alloys; or</li> <li>Zirconium or zirconium alloys.</li> <li>Note: This item does not control centrifugal separators defined in item 2B352.c.</li> </ol>
II.A2.012	Sintered metal filters made of nickel or nickel alloy with a nickel content of 40 % or more by weight. Note: This item does not control filters defined in item 2B352.d.

# A3

# ELECTRONICS

No	Description	Related item from Annex I to Regulation (EC) No 394/2006
II.A3.001	High voltage direct current power supplies having both of the following characteristics: a.Capable of continuously producing, over a 	ıt

	than 0,1 % over a time period of four hours. Note: This item does not control power supplies defined in items 0B001.j.5 and 3A227.	
II.A3.002	Mass spectrometers, other than those specified in 3A233 or $0B002g$ , capable of measuring ions of 200 atomic mass units or greater and having a resolution of better than 2 parts in 200, as follows, and ion sources therefor: a. Inductively coupled plasma mass spectrometers (ICP/ MS); b. Glow discharge mass spectrometers (GDMS); c. Thermal ionisation mass spectrometers (TIMS); d. Electron bombardment mass spectrometers which have a source chamber constructed from, lined with or plated with 'Materials resistant to corrosion by $UF_6$ '; e. Molecular beam mass spectrometers having either of the following characteristics: 1. A source chamber constructed from, lined with or plated with with stainless steel or molybdenut	

Status: Point in time view as at 06/06/2007.
Changes to legislation: There are currently no known outstanding effects for the
Council Regulation (EC) No 423/2007 (repealed). (See end of Document for details)

f. Mass spectrometers equipped with a microfluorination ion source designed for actinides or actinide fluorides.	f	2.	and equipped with a cold trap capable of cooling to 193 K $(-80 \degree C)$ or less; or A source chamber constructed from, lined with or plated with 'Materials resistant to corrosion by UF <sub>6</sub> ';	
ion source designed for actinides or	f.			
for actinides or		microflu	orination	
		ion sourc	e designed	
actinide fluorides.				
		actinide	fluorides.	

A6

# SENSORS AND LASERS

No	Description	Related item from Annex I to Regulation (EC) No 394/2006
II.A6.001	Yttrium aluminium garnet (YAG) rods	
II.A6.002	Infrared optics in the wavelength range 9–17 μm and components therefor, including cadmium telluride (CdTe) components. Note: This item does not control cameras and components defined in item 6A003	6A003
II.A6.003	Wave front corrector systems for use with a laser beam having a diameter exceeding 4 mm, and specially designed components therefor, including control systems,	6A004.a, 6A005.e, 6A005.f

	phase front sensors and 'deformable mirrors' including bimorph mirrors. Note: This item does not control mirrors defined in 6A004.a, 6A005.e and 6A005.f	
II.A6.004	Argon ion 'lasers' having an average output power equal to or greater than 5 W Note: This item does not control argon ion 'lasers' defined in items 0B001.g.5., 6A005 and 6A205.a	6A005.a.6, 6A205.a
II.A6.005	<ul> <li>Semiconductor 'lasers' and components therefor, as follows: <ul> <li>a. Individual semiconductor 'lasers' with an output power greater than 200 mW each, in quantities larger than 100;</li> <li>b. Semiconductor 'laser' arrays having an output power greater than 20 W.</li> </ul> </li> <li>Notes: <ul> <li>1. Semiconductor 'lasers' are commonly called 'laser' diodes.</li> </ul> </li> <li>2. This item does not control 'lasers' defined in items 0B001.g.5, 0B001.h.6 and 6A005b.</li> <li>3. This item does not control 'laser' diodes with a wavelength in the range 1 200–2 000 nm.</li> </ul>	6A005.b
II.A6.006	Tunable semiconductor 'lasers' and tunable	6A005.b

Status: Point in time view as at 06/06/2007.	
Changes to legislation: There are currently no known outstanding effects for the	
Council Regulation (EC) No 423/2007 (repealed). (See end of Document for details)	
	-

	semiconductor 'laser' arrays, of a wavelength between 9 $\mu$ m and 17 $\mu$ m, as well as array stacks of semiconductor 'lasers' containing at least one tunable semiconductor 'laser array' of such wavelength. Notes:	
	1. Semiconductor 'lasers' are commonly called 'laser' diodes.	
	2. This item does not control semiconductor 'lasers' defined in items 0B001.h.6 and 6A005.b.	
II.A6.007	Solid state 'tunable' 'lasers' as follows, and specially designed components therefor: a. Titanium-sapphire lasers; b. Alexandrite lasers. Note: This item does not control titanium-sapphire and alexandrite lasers defined in items 0B001.g.5, 0B001.h.6 and 6A005.c.1	6A005.c.1
II.A6.008	Neodymium-doped (other than glass) 'lasers', having an output wavelength exceeding 1 000 nm but not exceeding 1 100 nm and output energy exceeding 10 J per pulse. Note: This item does not control neodymium-doped (other than glass) 'lasers' defined in item 6A005.c.2.b	6A005.c.2
II.A6.009	Components of acousto- optics, as follows: a. Framing tubes and solid-state imaging devices having a recurrence frequency equal to or exceeding 1kHz;	6A203.b.4.c

	<ul><li>b. Recurrence frequency supplies;</li><li>c. Pockels cells.</li></ul>	
II.A6.010	Radiation-hardened cameras, or lenses therefor, other than those specified in 6A203c, specially designed or rated as radiation hardened to withstand a total radiation dose greater than $50 \times 10^3$ Gy(silicon) (5 × 10 <sup>6</sup> rad (silicon)) without operational degradation. Technical note: The term Gy(silicon) refers to the energy in Joules per kilogram absorbed by an unshielded silicon sample when exposed to ionising radiation.	6A203.c
II.A6.011	<ul> <li>Tunable pulsed dye laser amplifiers and oscillators, having all of the following characteristics:</li> <li>1. Operating at wavelengths between 300 nm and 800 nm;</li> <li>2. An average output power greater than 10 W but not exceeding 30 W;</li> <li>3. A repetition rate greater than 1 kHz; and</li> <li>4. Pulse width less than 100 ns.</li> <li>Notes:</li> <li>1. This item does not control single mode oscillators.</li> <li>2. This item does not control tunable pulsed dye laser amplifiers and oscillators defined in item 6A205.c, 0B001.g.5 and 6A005</li> </ul>	6A205.c

Status: Point in time view as at 06/06/2007.	
<b>Changes to legislation:</b> There are currently no known outstanding effects for the	
Council Regulation (EC) No 423/2007 (repealed). (See end of Document for details)	

II.A6.012	Pulsed carbon dioxide	6A205.d
	'lasers' having all of the	
	following characteristics:	
	1. Operating at	
	wavelengths	
	between 9 000 nm	
	and 11 000 nm;	
	2. A repetition rate	
	greater than 250	
	Hz;	
	3. An average output	
	power greater than	
	100 W but not	
	exceeding 500 W;	
	and	
	4. Pulse width of less	
	than 200 ns.	
	Note: This item does not	
	control pulsed carbon	
	dioxide laser amplifiers and	
	oscillators defined in item	
	6A205.d, 0B001.h.6 and	
	6A005d.	

A7

## NAVIGATION AND AVIONICS

No	Description Related item from Annex I to Regulation (EC) No 394/2006
II.A7.001	Inertial systems and specially designed components, as follows: I. Inertial navigation systems which are certified for use on 'civil aircraft' by civil authorities of a State participating in the Wassenaar Arrangement, and specially designed components, as follows: a. Inertial navigation systems (INS) (gimballed or strapdown)

> and inertial equipment designed for 'aircraft', land vehicle, vessels (surface or underwater) or 'spacecraft' for attitude, guidance or control, having any of the following characteristics, and specially designed components therefor: 1. Navigation error (free inertial) subsequent to normal alignment of 0,8 nautical mile per hour (nm/ hr) 'Circular Error Probable' (CEP) or less (better); or 2. Specified to function at

Status: Point in time view as at 06/06/2007.
Changes to legislation: There are currently no known outstanding effects for the
Council Regulation (EC) No 423/2007 (repealed). (See end of Document for details)

	linear
	acceleration
	levels
	exceeding
	10
	g;
b.	Hybrid
	inertial
	navigation
	systems
	embedded
	with
	Global
	Navigation
	Satellite
	Systems(s)
	(GNSS)
	or with
	'Data-
	Based
	Referenced
	Navigation ('DBRN')
	System(s)
	for
	attitude,
	guidance
	•
	or control,
	subsequent to normal
	alignment, having
	an INS
	navigation position
	accuracy,
	after
	loss of
	GNSS or
	'DBRN'
	for a
	period of
	up to four
	minutes,
	of less
	(better)
	than 10
	metres
	'Circular
	Error
	Probable' (CEP);
C.	Inertial
υ.	Equipment
	for
	101

> Azimuth, Heading, or North Pointing having any of the following characteristics, and specially designed components therefor: 1. Designed to have an Azimuth, Heading, or North Pointing accuracy equal to or less (better) than 6 arc minutes RMS at 45 degrees latitude; or 2. Designed to have а nonoperating sĥock level of 900 g or greater at

a

	duration
	of
	1
	msec,
	-
	or
	greater.
Note: The	
parameters of	
I.a. and I.b. are	
applicable with an	y
of the following	
environmental	
conditions:	
1. Input	
random	
vibration	n
with an	
overall	
magnitud	de
of 7,7 g	
rms in th	-
first half	
hour and	
a total te	st
duration	
of one ar	nd
one half	
hour per	
axis in	
each of	
the three	
perpendi	
	Culai
axes, when the	
random	
vibration	
meets the	
following	g:
a.	A
	constant
	power
	spectral
	density
	(PSD)
	value
	of
	0,04
	2,07
	$g^2/$
	Hz
	over
	a
	frequency
	interval
	I

	b.	of 15 to 1 000 Hz; and The PSD attenuates with frequency from 0,04 $g^2/$ Hz to 0,01 $g^2/$ Hz over a frequency interval
		from 1
		000
		to 2
		000 Hz;
2.	A roll and yaw	
	rate of equal to	
	more that	
	+ 2,62 radian/s	
	(150 deg	g/
3.	s); or Accordi	ng
	to nation standard	
	equivale	ent
Teshair	to 1. or 2 above.	2.
	al notes:	
1.	I.b. refer to syster in which an INS and othe	ns 1

<i>Status:</i> Point in time view as at 06/06/2007.
<b>Changes to legislation:</b> There are currently no known outstanding effects for the
Council Regulation (EC) No 423/2007 (repealed). (See end of Document for details)

	independent navigation aids are built into a single unit (embedded) in order to achieve improved performance.
2.	'Circular Error
	Probable' (CEP) —
	In a
	circular
	normal
	distribution,
	the radius
	of the circle
	containing
	50 %
	of the
	individual
	measurements
	being
	made,
	or the radius of
	the circle
	within
	which
	there is
	a 50 %
	probability
	of being located.
Theodo	lite systems
incorpor	
	equipment
specially	y designed
	surveying
purpose	
	d to have an n, Heading,
	n Pointing
accurac	e
to, or le	ss (better)
	rc minutes
	45 degrees
latitude,	y designed
specially	y ucsigned

II.

III.	components therefor. Inertial or other equipment using accelerometers specified in 7A001 or 7A101, where such accelerometers are specially designed and developed as MWD (Measurement While Drilling) sensors for use in downhole well services operations.	
------	--	--

## II.B. TECHNOLOGY

No	Description	Related item from Annex I to Regulation (EC) No 394/2006
II.B.001	Technology required for the development, production or use of the items in Part A (Goods) above.	

### ANNEX III

Websites for information on the competent authorities referred to in Articles 3(4), 3(5), 5(3), 6, 8, 9, 10(1), 10(2), 13(1) and 17 and address for notifications to the European Commission BELGIUM

http://www.diplomatie.be/eusanctions BULGARIA

http://www.mfa.government.bg CZECH REPUBLIC

http://www.mfcr.cz/mezinarodnisankce DENMARK

http://www.um.dk/da/menu/Udenrigspolitik/FredSikkerhedOgInternationalRetsorden/ Sanktioner/ GERMANY

http://www.bmwi.de/BMWi/Navigation/Aussenwirtschaft/Aussenwirtschaftsrecht/ embargos.html ESTONIA

http://web-visual.vm.ee/est/kat 622/

### GREECE

http://www.ypex.gov.gr/www.mfa.gr/en-US/Policy/Multilateral+Diplomacy/International +Sanctions/

SPAIN

www.mae.es/es/MenuPpal/Asuntos/Sanciones+Internacionales FRANCE

http://www.diplomatie.gouv.fr/autorites-sanctions/ IRELAND

http://www.dfa.ie/un\_eu\_restrictive\_measures\_ireland/competent\_authorities ITALY

http://www.esteri.it/UE/deroghe.html CYPRUS

http://www.mfa.gov.cy/sanctions LATVIA

http://www.mfa.gov.lv/en/security/4539 LITHUANIA

http://www.urm.lt LUXEMBOURG

http://www.mae.lu/sanctions HUNGARY

http://www.kulugyminiszterium.hu/kum/hu/bal/nemzetkozi\_szankciok.htm MALTA

 $http://www.doi.gov.mt/EN/bodies/boards/sanctions\_monitoring.asp NETHERLANDS$ 

http://www.minbuza.nl/sancties AUSTRIA

http://www.bmeia.gv.at/view.php3?f\_id=12750&LNG=en&version=POLAND

http://www.msz.gov.pl PORTUGAL

http://www.min-nestrangeiros.pt ROMANIA

http://www.mae.ro/index.php?unde=doc&id=32311&idlnk=1&cat=3 SLOVENIA

http://www.mzz.gov.si/si/zunanja\_politika/mednarodna\_varnost/omejevalni\_ukrepi/SLOVAKIA

http://www.foreign.gov.sk FINLAND

http://formin.finland.fi/kvyhteistyo/pakotteet SWEDEN

UNITED KINGDOM

http://www.fco.gov.uk/competentauthorities

Address for notifications to the European Commission:

European Commission

DG External Relations

Directorate A. Crisis Platform and Policy Coordination in CFSP

Unit A.2. Crisis Management and Conflict Prevention

CHAR 12/106

B-1049 Bruxelles/Brussel (Belgium)

E-mail: relex-sanctions@ec.europa.eu

Tel.: (32 2) 295 55 85, 299 11 76

Fax: (32 2) 299 08 73

# [<sup>F1</sup>ANNEX IV

#### **Textual Amendments**

**F1** Substituted by Commission Regulation (EC) No 441/2007 of20 April 2007 amending Council Regulation (EC) No 423/2007 concerning restrictive measures against Iran.

A.Natural persons

- (1) Fereidoun Abbasi-Davani. Other information: Senior Ministry of Defence and Armed Forces Logistics (MODAFL) scientist with links to the Institute of Applied Physics. Working closely with Mohsen Fakhrizadeh-Mahabadi.
- (2) Dawood **Agha-Jani**. Function: Head of the PFEP Natanz. Other information: Person involved in Iran's nuclear programme.
- (3) Ali Akbar Ahmadian. Title: Vice Admiral. Function: Chief of Iranian Revolutionary Guard Corps (IRGC) Joint Staff.
- (4) Behman Asgarpour. Function: Operational Manager (Arak). Other information: Person involved in Iran's nuclear programme.
- (5) Bahmanyar Morteza **Bahmanyar**. Function: Head of Finance & Budget Dept, Aerospace Industries Organisation (AIO). Other information: Person involved in Iran's ballistic missile programme.
- (6) Ahmad Vahid **Dastjerdi**. Function: Head of the Aerospace Industries Organisation (AIO). Other information: Person involved in Iran's ballistic missile programme.
- (7) Ahmad **Derakhshandeh**. Function: Chairman and Managing Director of Bank Sepah.

- (8) Reza-Gholi **Esmaeli**. Function: Head of Trade & International Affairs Dept, Aerospace Industries Organisation (AIO). Other information: Person involved in Iran's ballistic missile programme.
- (9) Mohsen **Fakhrizadeh-Mahabadi**. Other information: Senior MODAFL scientist and former head of the Physics Research Centre (PHRC).
- (10) Mohammad **Hejazi**. Title: Brigadier General. Function: Commander of Bassij resistance force.
- (11) Mohsen **Hojati**. Function: Head of Fajr Industrial Group.
- (12) Mehrdada Akhlaghi **Ketabachi**. Function: Head of Shahid Bagheri Industrial Group (SBIG).
- (13) Ali Hajinia Leilabadi. Function: Director General of Mesbah Energy Company. Other information: Person involved in Iran's nuclear programme.
- (14) Naser **Maleki**. Function: Head of Shahid Hemmat Industrial Group (SHIG). Other information: Naser Maleki is also a MODAFL official overseeing work on the Shahab-3 ballistic missile programme. The Shahab-3 is Iran's long range ballistic missile currently in service.
- (15) Jafar **Mohammadi**. Function: Technical Adviser to the Atomic Energy Organisation of Iran (AEOI) (in charge of managing the production of valves for centrifuges). Other information: Person involved in Iran's nuclear programme.
- (16) Ehsan **Monajemi**. Function: Construction Project Manager, Natanz. Other information: Person involved in Iran's nuclear programme.
- (17) Mohammad Mehdi Nejad **Nouri**. Title: Lt Gen. Function: Rector of Malek Ashtar University of Defence Technology. Other information: The chemistry department of Ashtar University of Defence Technology is affiliated to MODAFL and has conducted experiments on beryllium. Person involved in Iran's nuclear programme.
- (18) Mohammad **Qannadi**. Function: AEOI Vice President for Research & Development. Other information: Person involved in Iran's nuclear programme.
- (19) Amir **Rahimi**. Function: Head of Esfahan Nuclear Fuel Research and Production Center. Other information: Esfahan Nuclear Fuel Research and Production Center is part of the AEOI's Nuclear Fuel Production and Procurement Company, which is involved in enrichment-related activities.
- (20) Morteza **Rezaie**. Title: Brigadier General. Function: Deputy Commander of IRGC.
- (21) Morteza **Safari**. Title: Rear Admiral. Function: Commander of IRGC Navy.
- (22) Yahya Rahim **Safavi**. Title: Maj Gen. Function: Commander, IRGC (Pasdaran). Other information: Person involved in both Iran's nuclear and ballistic missile programmes.
- (23) Seyed Jaber **Safdari**. Other information: Manager of the Natanz Enrichment Facilities.
- (24) Hosein **Salimi**. Title: General. Function: Commander of the Air Force, IRGC (Pasdaran). Other information: Person involved in Iran's ballistic missile programme.
- (25) Qasem Soleimani. Title: Brigadier General. Function: Commander of Qods force.

- (26) Mohammad Reza **Zahedi**. Title: Brigadier General. Function: Commander of IRGC Ground Forces.
- (27) General **Zolqadr**. Function: Deputy Interior Minister for Security Affairs, IRGC officer.
- B. Entities
- (1) Ammunition and Metallurgy Industries Group (*alias* (a) AMIG, (b) Ammunition Industries Group). Other information: (a) AMIG controls 7th of Tir, (b) AMIG is owned and controlled by the Defence Industries Organisation (DIO).
- (2) Atomic Energy Organisation of Iran (AEOI). Other information: Involved in Iran's nuclear programme.
- (3) Bank Sepah and Bank Sepah International. Other information: Bank Sepah provides support for the Aerospace Industries Organisation (AIO) and subordinates, including Shahid Hemmat Industrial Group (SHIG) and Shahid Bagheri Industrial Group (SBIG).
- (4) Cruise Missile Industry Group (*alias* Naval Defence Missile Industry Group).
- (5) Defence Industries Organisation (DIO). Other information: (a) Overarching MODAFL-controlled entity, some of whose subordinates have been involved in the centrifuge programme making components, and in the missile programme, (b) Involved in Iran's nuclear programme.
- (6) Esfahan Nuclear Fuel Research and Production Centre (NFRPC) and Esfahan Nuclear Technology Centre (ENTC). Other information: They are parts of the Atomic Energy Organisation of Iran's (AEOI) Nuclear Fuel Production and Procurement Company.
- (7) Fajr Industrial Group. Other information: (a) Formerly Instrumentation Factory Plant,
   (b) Subordinate entity of AIO, (c) Involved in Iran's ballistic missile programme.
- (8) Farayand Technique. Other information: (a) Involved in Iran's nuclear programme (centrifuge programme), (b) Identified in IAEA reports.
- (9) Kala-Electric (*alias* Kalaye Electric). Other information: (a) Provider for PFEP Natanz, (b) Involved in Iran's nuclear programme.
- (10) Karaj Nuclear Research Centre. Other information: Part of AEOI's research division.
- (11) Kavoshyar Company. Other information: Subsidiary company of AEOI.
- (12) Mesbah Energy Company. Other information: (a) Provider for A40 research reactor Arak, (b) Involved in Iran's nuclear programme.
- (13) Novin Energy Company (*alias* Pars Novin). Other information: It operates within AEOI.
- (14) Parchin Chemical Industries. Other information: Branch of DIO.
- (15) Pars Aviation Services Company. Other information: maintains aircraft.
- (16) Pars Trash Company. Other information: (a) Involved in Iran's nuclear programme (centrifuge programme), (b) Identified in IAEA reports.

- (17) Qods Aeronautics Industries. Other information: It produces unmanned aerial vehicles (UAVs), parachutes, para-gliders, para-motors, etc.
- (18) Sanam Industrial Group. Other information: subordinate to AIO.
- (19) 7th of Tir. Other information: (a) Subordinate of DIO, widely recognized as being directly involved in Iran's nuclear programme, (b) Involved in Iran's nuclear programme.
- (20) Shahid Bagheri Industrial Group (SBIG). Other information: (a) Subordinate entity of AIO, (b) Involved in Iran's ballistic missile programme.
- (21) Shahid Hemmat Industrial Group (SHIG). Other information: (a) subordinate entity of AIO, (b) Involved in Iran's ballistic missile programme.
- (22) Sho'a' Aviation. Other information: It produces micro-lights.
- (23) Ya Mahdi Industries Group. Other information: subordinate to AIO.]

## ANNEX V

List of persons, entities and bodies referred to in Article 7(2)

 $[^{F2}A.$  Legal persons, entities and bodies

	Name	Identifying information	Reasons
1.	Aerospace Industries Organisation (AIO)	AIO, 28 Shian 5, Lavizan, Tehran	The AIO oversees Iran's production of missiles, including the Shahid Hemmat Industrial Group, the Shahid Bagheri Industrial Group and the Fajr Industrial Group, which were all designated under UNSCR 1737 (2006). The head of the AIO and two other senior officials were also designated under UNSCR 1737 (2006).
2.	Armament Industries	Pasdaran Av., PO Box 19585/777, Tehran	A subsidiary of the DIO (Defence Industries Organisation).
3.	Defence Technology and Science Research Centre (DTSRC) — also known as	Pasdaran Av., PO Box 19585/777, Tehran	Responsible for R&D. A subsidiary of the DIO. The DTSRC handles much of the

	the Educational Research Institute/ Moassese Amozeh Va Tahgiaghati (ERI/ MAVT Co.)		procurement for the DIO.
4.	Jaber Ibn Hayan	AEOI JIHRD, PO Box 11365-8486, Tehran; 84, 20th Av., Entehaye Karegar Shomali Street, Tehran	Jaber Ibn Hayan is an AEOI (Atomic Energy Organisation of Iran) laboratory involved in fuel cycle activities. Located within the Tehran Nuclear Research Centre (TNRC), it was not declared by Iran under its safeguards agreement prior to 2003, although conversion work was being carried out there.
5.	Marine Industries	Pasdaran Av., PO Box 19585/777, Tehran	A subsidiary of the DIO.
6.	Nuclear Fuel Production and Procurement Company (NFPC)	AEOI-NFPD, PO Box 11365-8486, Tehran, Iran	The Nuclear Fuel Production Division (NFPD) of the AEOI is involved in research and development in the field of the nuclear fuel cycle, including uranium exploration, mining, milling and conversion and nuclear waste management. The NFPC is the successor to the NFPD, the subsidiary company under the AEOI that runs research and development in the nuclear fuel cycle, including conversion and enrichment.

7.	Special Industries Group	Pasdaran Av., PO Box 19585/777, Tehran	A subsidiary of the DIO.
8.	TAMAS Company		TAMAS is involved in enrichment-related activities, which Iran is required by the IAEA Board and the Security Council to suspend. TAMAS is the overarching body, under which four subsidiaries have been established, including one doing uranium extraction to concentration and another in charge of uranium processing, enrichment and waste.

### **Textual Amendments**

**F2** Inserted by Council Decision of 23 April 2007 implementing Article 7(2) of Regulation (EC) No 423/2007 concerning restrictive measures against Iran (2007/242/EC).

### B. Natural persons

	Name	Identifying information	Reasons
1.	Reza AGHAZADEH	Date of birth: 15.3.1949. Passport number: S4409483, valid 26.4.200027.4.2010. Issued: Tehran. Place of birth: Khoy.	Head of the Atomic Energy Organisation of Iran (AEOI). The AEOI oversees Iran's nuclear programme and is designated under UNSCR 1737 (2006).
2.	Amir Moayyed ALAI		Involved in managing the assembly and engineering of centrifuges. Iran is required by the IAEA Board and the Security Council to suspend all enrichment- related activities. This includes all

		centrifuge-related work. On 27 August 2006 Alai received a special award from President Ahmadinejad for his role in managing the assembly and engineering of centrifuges.
3.	Mohammed Fedai ASHIANI	Involved in the production of ammonium uranyl carbonate (AUC) and the management of the Natanz enrichment complex. Iran is required to suspend all enrichment-related activities. On 27 August 2006 Ashiani received a special award from President Ahmadinejad for his role in the AUC production process and for his role in the management of and engineering design for the enrichment complex at the Natanz (Kashan) site.
4.	Haleh BAKHTIAR	Involved in the production of magnesium at a concentration of 99,9 %. On 27 August 2006 Bakhtiar received a special award from President Ahmadinejad for her role in producing magnesium at a concentration of 99,9 %. Magnesium of this purity is used to produce uranium metal, which can be cast into material for a nuclear weapon. Iran has

			refused to provide the IAEA with access to a document on the production of uranium metal hemispheres, only applicable for nuclear weapons use.
5.	Morteza BEHZAD		Involved in making centrifuge components. Iran is required to suspend all enrichment- related activities. This includes all centrifuge-related work. On 27 August 2006 Behzad received a special award from President Ahmadinejad for his role in making complex and sensitive centrifuge components.
6.	Dr Hoseyn (Hossein) FAQIHIAN	Address of the NFPC: AEOI-NFPD, PO Box 11365-8486, Tehran, Iran.	Deputy and Director General of the Nuclear Fuel Production and Procurement Company (NFPC), part of the AEOI. The AEOI oversees Iran's nuclear programme and is designated under UNSCR 1737 (2006). The NFPC is involved in enrichment-related activities, which Iran is required by the IAEA Board and the Security Council to suspend.
7.	Seyyed Hussein (Hossein) HUSSEINI (HOSSEIN	JI)	An AEOI official involved in the heavy water research reactor (IR40) project at Arak. UNSCR 1737 (2006) required Iran to suspend all

			work on heavy water related projects.
8.	Javad KARIMI SABET		Head of the Novin Energy Company. In August 2006 Karimi Sabet received an award from President Ahmadinejad for his role in designing, producing, installing and using nuclear equipment at the Natanz site.
9.	Said Esmail KHALILIPOUR		Deputy Head of the AEOI. The AEOI oversees Iran's nuclear programme and is designated under UNSCR 1737 (2006).
10.	Ali Reza KHANCHI	Address of the NRC: AEOI-NRC, PO Box 11365-8486, Tehran, Iran; Fax (+9821) 8021412.	Head of the AEOI's Tehran Nuclear Research Centre. The IAEA is continuing to seek clarification from Iran about plutonium separation experiments carried out at the TNRC, including about the presence of HEU particles in environmental samples taken at the Karaj Waste Storage Facility, where containers used to store depleted uranium targets used in those experiments are located. The AEOI oversees Iran's nuclear programme and is designated under UNSCR 1737 (2006).
11.	Hamid-Reza MOHAJERANI		Involved in production management at the Uranium Conversion Facility (UCF)

<i>Status:</i> Point in time view as at 06/06/2007.
Changes to legislation: There are currently no known outstanding effects for the
Council Regulation (EC) No 423/2007 (repealed). (See end of Document for details)

		at Esfahan. On 27 August 2006 Mohajerani received a special award from President Ahmadinejad for his role in production management at the UCF and in planning, building and installing the UF6 unit (UF6 is the feed material for enrichment).
12.	Houshang NOBARI	Involved in the management of the Natanz enrichment complex. Iran is required by the IAEA Board and the Security Council to suspend all enrichment-related activities. These include activities at the enrichment complex at Natanz (Kashan). On 27 August 2006 Nobari received a special award from President Ahmadinejad for his role in the successful management and execution of the Natanz (Kashan) site plan.
13.	Dr Javad RAHIQI	Head of the AEOI's Esfahan Nuclear Technology Centre. This oversees the uranium conversion plant at Esfahan. Iran is required by the IAEA Board and the Security Council to suspend all enrichment- related activities. This includes all uranium conversion work. The AEOI oversees Iran's

		nuclear programme and is designated under UNSCR 1737 (2006).
14.	Abbas RASHIDI	Involved in enrichment work at Natanz. Iran is required by the IAEA Board and the Security Council to suspend all enrichment-related activities. On 27 August 2006 Rashidi received a special award from President Ahmadinejad for his management and notable role in the successful operation of the 164-centrifuge enrichment cascade at Natanz.
15.	Abdollah SOLAT SANA	Managing Director of the Uranium Conversion Facility (UCF) in Esfahan. This is the facility that produces the feed material (UF6) for the enrichment facilities at Natanz. On 27 August 2006 Solat Sana received a special award from President Ahmadinejad for his role.]

### **Status:**

Point in time view as at 06/06/2007.

### Changes to legislation:

There are currently no known outstanding effects for the Council Regulation (EC) No 423/2007 (repealed).