File Ref. : TRA CR 1506/2

LEGISLATIVE COUNCIL BRIEF

Import and Export Ordinance
(Chapter 60)

IMPORT AND EXPORT (STRATEGIC COMMODITIES) REGULATIONS (AMENDMENT OF SCHEDULE 1) ORDER 2011

INTRODUCTION

The Director-General of Trade and Industry (DGTI) has made the Import and Export (Strategic Commodities) Regulations (Amendment of Schedule 1) Order 2011 ("the Order") to amend Schedule 1 to the Import and Export (Strategic Commodities) Regulations (Cap. 60, sub. leg. G) ("the Regulations") to reflect the latest changes adopted by various international non-proliferation regimes in their control lists of strategic commodities. The Order is at Annex.

Annex

JUSTIFICATIONS

2. The Regulations enable Hong Kong to impose licensing control on the import, export, transshipment, and in some cases, transit of strategic commodities. The licensing system is administered by the Trade and Industry Department (TID) and enforced by the Customs and Excise Department.

3. Schedule 1 to the Regulations sets out the strategic commodities under control, which include materials, equipment, software and technology capable of being used for both industrial and military purposes. The Schedule has been drawn up on the basis of the control lists adopted by various international non-proliferation regimes and convention, i.e. the Wassenaar Arrangement, the Australian Group, the Missile Technology Control Regime, the Nuclear Suppliers Group and the Chemical Weapons Convention. The Administration follows closely

developments in the international scene with regard to the control over strategic commodities. The Schedule is under regular review and, where appropriate, is amended to take into account the up-to-date control lists adopted by relevant international regimes and convention. The last amendment of Schedule 1 to the Regulations came into effect in June 2010.

4. Under section 6B of the Import and Export Ordinance (Cap. 60), DGTI may, by order published in the Gazette, replace the Schedules to the Regulations or amend them to add or remove an article or class of articles to or from the Schedules to the Regulations.

THE ORDER

5. The Order amends Schedule 1 to the Regulations to reflect the revisions adopted by relevant international regimes in their control lists subsequent to the last amendment exercise on Hong Kong's control list of strategic commodities. The latest changes of these international regimes generally reflect the on-going relaxation of control on dual-use strategic commodities which are mainly used for industrial purposes but can also be applied to military uses, while strengthening control on specialist military items not commonly engaged in trading transactions.

6. The amendments covered in the Order do not involve items which represent significant trading activities in Hong Kong. Nevertheless, keeping Hong Kong's control list of strategic commodities updated should be welcomed by the business community as it would provide convenience and facilitation for local companies trading strategic commodities with major trading partners which are implementing the same control lists of the international regimes. We also take the opportunity to make minor textual amendments to Schedule 1 to the Regulations for consistency sake. These changes do not affect the substance of the control list.

LEGISLATIVE TIMETABLE

7. The Order will be gazetted on 18 November 2011 and tabled at the Legislative Council on 23 November 2011.

8. We plan to bring the Order into effect on 3 January 2012 upon gazettal of the commencement notice on 30 December 2011. This is to ensure that the trade can reap the benefit of the convenience arising from the updating of the control list at the earliest opportunity.

IMPLICATIONS OF THE PROPOSAL

9. The Order is in conformity with the Basic Law, including the provisions concerning human rights. It will not affect the binding effect of the Regulations. It has no economic, financial, civil service, productivity, environmental or sustainability implications.

PUBLIC CONSULTATION

10. The amendments made by the Order are technical in nature. Public consultation is considered not necessary. We have briefed the relevant trade representatives on the amendment exercise and they generally welcome the amendments.

PUBLICITY

11. A press release will be issued when the Order is published in the Gazette on 18 November 2011. TID will announce the revisions of the control list through trade circular, general advisory service and its web portal on the day of gazettal. A spokesperson will be available for answering media enquiries.

ENQUIRIES

12. For any enquiries on this brief, please contact Mr. Billy AU, Principal Trade Officer of the TID at 2398 5554.

Trade and Industry Department
16 November 2011

Annex

IMPORT AND EXPORT
(STRATEGIC COMMODITIES) REGULATIONS
(AMENDMENT OF SCHEDULE 1) ORDER 2011

A copy of the captioned order is attached.

Import and Export (Strategic Commodities) Regulations (Amendment of Schedule 1) Order 2011

(Made by the Director-General of Trade and Industry under section 6B of the Import and Export Ordinance (Cap. 60))

1. Commencement

Subject to section 6B of the Ordinance, this Order comes into operation on a day to be appointed by the Director-General of Trade and Industry by notice published in the Gazette.

2. Import and Export (Strategic Commodities) Regulations amended

The Import and Export (Strategic Commodities) Regulations (Cap. 60 sub. leg. G) are amended as set out in section 3.

3. Schedule 1 amended (strategic commodities)

(1) Schedule 1, Notes before the Munitions List, Note 2—

Repeal

"Chemicals are listed by name and CAS number. Chemicals of the same structural formula (including hydrates) are controlled regardless of name or CAS number."

Substitute

"In some instances chemicals are listed by name and CAS number. The list applies to chemicals of the same structural formula (including hydrates) regardless of name or CAS number.".

(2) Schedule 1, Munitions List, ML1(a), Note—

Repeal

"control"

Substitute

"apply to".

(3) Schedule 1, Munitions List, ML1(d)—

Repeal

"controlled"

Substitute

"specified".

(4) Schedule 1, Munitions List, ML1, Notes—

Repeal

"control" (wherever appearing)

Substitute

"apply to".

(5) Schedule 1, Munitions List, ML1, Note 2—

Repeal

"controlled ammunition"

Substitute

"ammunition specified by ML3".

(6) Schedule 1, Munitions List—

Repeal ML2(b)

Substitute

"(b) Smoke, gas and pyrotechnic projectors or generators, specially designed or modified for military use;

Note:

ML2(b) does not apply to signal pistols.".

(7) Schedule 1, Munitions List—

Repeal ML2(c)

Substitute

"(c) Weapons sights and weapon sight mounts, having all of the following:

(1) Specially designed for military use;

(2) Specially designed for weapons specified in ML2(a);

(d) Mountings specially designed for the weapons specified in ML2(a);".

(8) Schedule 1, Munitions List—

Repeal ML4(b)(2)

Substitute

"(2) Specially designed for 'activities' relating to any of the following:

(a) Items specified by ML4(a);

(b) Improvised Explosive Devices (IEDs);

Technical Note:

For the purpose of ML4(b)(2), 'activities' applies to handling, launching, laying, controlling, discharging, detonating, activating, powering with one-time operational output, decoying, jamming, sweeping, detecting, disrupting or disposing.".

(9) Schedule 1, Munitions List—

Repeal ML5(c)

Substitute

"(c) Countermeasure equipment for items specified by ML5(a) and ML5(b);

Note:

For the purposes of ML5(c), countermeasure equipment includes detection equipment.".

(10) Schedule 1, Munitions List, ML5(d)—

Repeal

"controlled by ML5(a) or ML5(b)"

Substitute

"specified by ML5(a), ML5(b) or ML5(c)".

(11) Schedule 1, Munitions List—

Repeal ML6(b)

Substitute

"(b) Other ground vehicles and components, as follows:

(1) All-wheel drive vehicles capable of off-road use which have been manufactured or fitted with materials or components to provide ballistic protection to level III (NIJ 0108.01, September 1985, or comparable national standard) or better;

(2) Components having all of the following:

(a) Specially designed for vehicles specified in ML6(b)(1);

(b) Providing ballistic protection to level III (NIJ 0108.01, September 1985, or comparable national standard) or better;".

(12) Schedule 1, Munitions List, ML6—

(a) Note 1(a)—

Repeal

"controlled under"

Substitute

"specified by";

(b) Note 2—

Repeal

"controlled"

Substitute

"specified";

(c) Note 2(a)—

Repeal

"or to run when deflated";

(d) Note 2—

Repeal paragraphs (b), (c), (d) and (e)

Substitute

"(b) Armoured protection of vital parts, (e.g. fuel tanks or vehicle cabs);

(c) Special reinforcements or mountings for weapons;

(d) Black-out lighting.";

(e) Note 3—

Repeal

"control"

Substitute

"apply to".

(13) Schedule 1, Munitions List, ML7(a)—

Repeal

"Biological agents and radioactive materials"

Substitute

"Biological agents or radioactive materials,".

(14) Schedule 1, Munitions List, ML7(b)(4)(b)—

Repeal

"mixed with 2,4-dichlorophenoxyacetic acid (Agent Orange)"

Substitute

"(CAS 93-76-5) mixed with 2,4-dichlorophenoxyacetic acid (CAS 94-75-7) (Agent Orange) (CAS 39277-47-9)".

(15) Schedule 1, Munitions List, ML7(i)(1)—

Repeal

"controlled"

Substitute

"specified".

(16) Schedule 1, Munitions List—

Repeal ML7(i)(2)

Substitute

"(2) Biological systems containing the genetic information specific to the production of "biocatalysts" specified by ML7(i)(1), as follows:

(a) "Expression vectors";

(b) Viruses;

(c) Cultures of cells;".

(17) Schedule 1, Munitions List, ML8, Nota Bene, after "Dual-use Goods List."—

Add

"For charges and devices, see ML4 and 1A008 of the Dual-use Goods List.".

(18) Schedule 1, Munitions List, ML8(a)(6), before the semicolon—

Add

"(CAS 145250-81-3)".

(19) Schedule 1, Munitions List—

Repeal ML8(a)(32)(g).

(20) Schedule 1, Munitions List—

Repeal ML8(a)(33) and (34)

Substitute

"(33) Explosives not listed elsewhere in ML8(a) and having any of the following:

(a) Detonation velocity exceeding 8 700 m/s, at maximum density;

(b) Detonation pressure exceeding 34 GPa (340 kbar);

(34) Organic explosives not listed elsewhere in ML8(a) and having all of the following:

(a) Yielding detonation pressures of 25 GPa (250 kbar) or more;

(b) Remaining stable at temperatures of 523 K (250°C) or higher, for periods of 5 minutes or longer;".

(21) Schedule 1, Munitions List, after ML8(b)(6)—

Add

"(7) "Propellants", not specified elsewhere in the Munitions List, specially designed for military use;".

(22) Schedule 1, Munitions List, ML8(d)(3)—

Repeal Notes 1 and 2

Substitute

"1. ML8(d)(3) does not apply to chlorine trifluoride (CAS 7790-91-2).

2. ML8(d)(3) does not apply to nitrogen trifluoride (CAS 7783-54-2) in its gaseous state.".

(23) Schedule 1, Munitions List, ML8(d)(10), Note—

Repeal

"control"

Substitute

"apply to".

(24) Schedule 1, Munitions List—

Repeal ML8(e)(6)

Substitute

"(6) Energetic monomers, plasticizers or polymers, specially formulated for military use and containing any of the following:

(a) Nitro groups;

(b) Azido groups;

(c) Nitrate groups;

(d) Nitraza groups;

(e) Difluoroamino groups;".

(25) Schedule 1, Munitions List—

Repeal ML8(e)(13)

Substitute

"(13) Alcohol functionalized poly (epichlorohydrin) with a molecular weight less than 10 000, as follows:

(a) Poly (epichlorohydrindiol);

(b) Poly (epichlorohydrintriol);".

(26) Schedule 1, Munitions List—

Repeal ML8(f)(4)(c)

Substitute

"(c) Ferrocene carboxylic acids including:

(1) Ferrocene carboxylic acid (CAS 1271-42-7); *and*

(2) 1,1'-Ferrocenedicarboxylic acid (CAS 1293-87-4);".

(27) Schedule 1, Chinese text, Munitions List, ML8(f)(11)—

Repeal

"膦" (wherever appearing)

Substitute

"磷".

(28) Schedule 1, Chinese text, Munitions List, ML8(f)(12)—

Repeal

"膦"

Substitute

"磷".

(29) Schedule 1, Munitions List, ML8(f)(19), before "with a specific"—

Add

"(CAS 1317-60-8)".

(30) Schedule 1, Munitions List, ML8(g)(4), before "(see"—

Add

"(CAS 182763-60-6)".

(31) Schedule 1, Munitions List, ML8—

Repeal Note 5

Substitute

"5. ML8(c)(5)(b) only applies to metal fuels in particle form when they are mixed with other substances to form a mixture formulated for military purposes such as liquid propellant slurries, solid propellants, or pyrotechnic mixtures.".

(32) Schedule 1, Munitions List, ML8—

(a) Note 6—

Repeal

"control"

Substitute

"apply to";

(b) Note 6(a), before the semicolon—

Add

"(CAS 131-74-8)";

(c) Note 6(c), before the semicolon—

Add

"(CAS 131-73-7)";

(d) Note 6(d), before the semicolon—

Add

"(CAS 10405-27-3)";

(e) Note 6(e), before the semicolon—

Add

"(CAS 9056-38-6)";

(f) Note 6(f), before the semicolon—

Add

"(CAS 7757-79-1)";

(g) Note 6(k), after "1-methyl-2-pyrrolidinone"—

Add

"(CAS 872-50-4)";

(h) Note 6(l), before the semicolon—

Add

"(CAS 142-16-5)";

(i) Note 6(m), before the semicolon—

Add

"(CAS 103-11-7)";

(j) Note 6(n)—

Repeal

"Triethylaluminium (TEA), trimethylaluminium (TMA)"

Substitute

"Triethylaluminium (TEA) (CAS 97-93-8), trimethylaluminium (TMA) (CAS 75-24-1)";

(k) Note 6(o), before the semicolon—

Add

"(CAS 9004-70-0)";

(l) Note 6(p), before the semicolon—

Add

"(CAS 55-63-0)";

(m) Note 6(q), before the semicolon—

Add

"(CAS 118-96-7)";

(n) Note 6(r), before the semicolon—

Add

"(CAS 20829-66-7)";

(o) Note 6(s), before the semicolon—

Add

"(CAS 78-11-5)";

(p) Note 6(t)—

Repeal

"Lead azide, normal and basic lead styphnate"

Substitute

"Lead azide (CAS 13424-46-9), normal lead styphnate (CAS 15245-44-0) and basic lead styphnate (CAS 12403-82-6)";

(q) Note 6(v), before the semicolon—

Add

"(CAS 82-71-3)";

(r) Note 6(w)—

Repeal

"Diethyldiphenyl urea; dimethylidiphenyl urea"

Substitute

"Diethyldiphenyl urea (CAS 85-98-3); dimethylidiphenyl urea (CAS 611-92-7)";

(s) Note 6(x), before the semicolon—

Add

"(CAS 603-54-3)";

(t) Note 6(y), before the semicolon—

Add

"(CAS 13114-72-2)";

(u) Note 6(z), before the semicolon—

Add

"(CAS 64544-71-4)";

(v) Note 6(aa), before the semicolon—

Add

"(CAS 119-75-5)";

(w) Note 6(bb), before the semicolon—

Add

"(CAS 836-30-6)";

(x) Note 6(cc), before the semicolon—

Add

"(CAS 918-52-5)";

(y) Note 6(dd), after "Nitroguanidine"—

Add

"(CAS 556-88-7)".

(33) Schedule 1, Chinese text, Munitions List, ML9(a)(2)(a)—

Repeal

"'武器架'"

Substitute

"'裝定器'".

(34) Schedule 1, Chinese text, Munitions List, ML9(a)(2)(a), Technical Note—

(a) **Repeal**

"'武器架'"

Substitute

"'裝定器'" ;

(b) **Repeal**

"支架"

Substitute

"裝定器".

(35) Schedule 1, Munitions List—

Repeal ML10(h)

Substitute

"(h) Parachutes, paragliders and related equipment, as follows, and specially designed components therefor:

(1) Parachutes not specified elsewhere in the Munitions List;

(2) Paragliders;

(3) Equipment specially designed for high altitude parachutists (e.g. suits, special helmets, breathing systems, navigation equipment);".

(36) Schedule 1, Munitions List, ML10, Notes 1 and 2—

Repeal

"control"

Substitute

"apply to".

(37) Schedule 1, Munitions List, ML11(a), after the Note—

Add

"*N.B.:*

For "software" associated with military "Software" Defined Radio (SDR), see ML21.".

(38) Schedule 1, Munitions List—

Repeal ML16

Substitute

"ML16 Forgings, castings and other unfinished products, specially designed for items specified by ML1, ML2, ML3, ML4, ML6, ML9, ML10, ML12 or ML19;

Note:

ML16 applies to unfinished products when they are identifiable by material composition, geometry or function.".

(39) Schedule 1, Munitions List, ML17(n)—

Repeal

"*and*".

(40) Schedule 1, Munitions List, ML17(o), after the semicolon—

Add

"*and*".

(41) Schedule 1, Munitions List, after ML17(o)—

Add

"(p) "Fuel cells", other than those specified elsewhere in the Munitions List, specially designed or 'modified' for military use;".

(42) Schedule 1, Munitions List, ML19(f)—

Repeal

"Continuous wave or pulsed "laser" systems"

Substitute

""Laser" systems".

(43) Schedule 1, Munitions List, ML19—

(a) Note 1—

Repeal

"Directed energy weapon systems controlled by ML19"

Substitute

"DEW systems specified by ML19";

(b) Note 1(a)—

Repeal

"continuous wave or pulsed";

(c) English text, Note 2—

Repeal

"directed energy weapon systems"

Substitute

"DEW systems".

(44) Schedule 1, Dual-use Goods List, Category 1, 1A001(a)—

Repeal

"controlled"

Substitute

"specified".

(45) Schedule 1, Dual-use Goods List, Category 1, 1A001(b)—

Repeal

"Piezoelectric polymers and copolymers made from vinylidene fluoride materials controlled by 1C009(a)"

Substitute

"Piezoelectric polymers and copolymers, made from vinylidene fluoride (CAS 75-38-7) materials, specified by 1C009(a), having all of the following".

(46) Schedule 1, Dual-use Goods List, Category 1, 1A002—

Repeal Note 1

Substitute

"1. 1A002 does not apply to composite structures or laminates, made from epoxy resin impregnated carbon "fibrous or filamentary materials", for the repair of "civil aircraft" structures or laminates, having all of the following:

(a) An area not exceeding 1 m^2;

(b) A length not exceeding 2.5 m;

(c) A width exceeding 15 mm.".

(47) Schedule 1, Dual-use Goods List, Category 1, 1A002, Note 2—

Repeal

"include finished or"

Substitute

"apply to".

(48) Schedule 1, Dual-use Goods List, Category 1, 1A002, Note 3—

Repeal

"include finished or"

Substitute

"apply to".

(49) Schedule 1, Dual-use Goods List, Category 1, 1A002, after Note 3—

Add

"4. 1A002 does not apply to finished items specially designed for a specific application.".

(50) Schedule 1, Dual-use Goods List, Category 1, 1A004(c)—

Repeal

"Nuclear, biological and chemical (NBC) detection systems"

Substitute

"Detection systems,".

(51) Schedule 1, Dual-use Goods List, Category 1, 1A004—

Repeal Note (b)

Substitute

"(b) Equipment limited by design or function to protect against hazards specific to residential safety or civil industries, including:

(1) Mining;

(2) Quarrying;

(3) Agriculture;

(4) Pharmaceutical;

(5) Medical;

(6) Veterinary;

(7) Environmental;

(8) Waste management;

(9) Food industry.".

(52) Schedule 1, Dual-use Goods List, Category 1, 1B001—

Repeal

"of fibres, prepregs, preforms or "composites" controlled by 1A002 or 1C010"

Substitute

"or inspection of "composite" structures or laminates specified by 1A002 or "fibrous or filamentary materials" specified by 1C010".

(53) Schedule 1, Dual-use Goods List, Category 1, 1B001(a)—

Repeal

"Filament winding machines of which the motions for positioning, wrapping and winding fibres are coordinated and programmed in three or more axes"

Substitute

"Filament winding machines, of which the motions for positioning, wrapping and winding fibres are coordinated and programmed in three or more 'primary servo positioning' axes".

(54) Schedule 1, Dual-use Goods List, Category 1, 1B001(b)—

Repeal

"Tape-laying or tow-placement machines of which the motions for positioning and laying tape, tows or sheets are coordinated and programmed in two or more axes"

Substitute

"Tape-laying machines, of which the motions for positioning and laying tape, tows or sheets are coordinated and programmed in five or more 'primary servo positioning' axes".

(55) Schedule 1, Chinese text, Dual-use Goods List, Category 1, 1B001(b)—

Repeal

""導彈"" (wherever appearing)

Substitute

"“導彈”".

(56) Schedule 1, Dual-use Goods List, Category 1, 1B001(c)—

Repeal

"for weaving"

Substitute

"specially designed or modified for weaving".

(57) Schedule 1, Dual-use Goods List, Category 1, 1B001(c)—

Repeal the Note.

(58) Schedule 1, Dual-use Goods List, Category 1, at the end of 1B001—

Add

"(g) Tow-placement machines, of which the motions for positioning and laying tows or sheets are coordinated and programmed in two or more 'primary servo positioning' axes, specially designed for the manufacture of "composite" airframe or missile structures;

Technical Note:

For the purposes of 1B001, 'primary servo positioning' axes control, under computer program direction, the position of the end effector (i.e. head) in space relative to the work piece at the correct orientation and direction to achieve the desired process.".

(59) Schedule 1, Dual-use Goods List, Category 1, 1C002(b)—

Repeal

"made from material controlled by 1C002(c)"

Substitute

"made from the powder or particulate material specified by 1C002(c)".

(60) Schedule 1, Dual-use Goods List, Category 1, 1C003(a), Technical Note—

Repeal

"initial permeability"

Substitute

"initial relative permeability".

(61) Schedule 1, Dual-use Goods List, Category 1—

Repeal 1C006(c)

Substitute

"(c) Damping or flotation fluids having all of the following:

(1) Purity exceeding 99.8%;

(2) Containing less than 25 particles of 200 μm or larger in size per 100 ml;

(3) Made from at least 85% of any of the following:

(a) Dibromotetrafluoroethane (CAS 25497-30-7, 124-73-2, 27336-23-8);

(b) Polychlorotrifluoroethylene (oily and waxy modifications only); *or*

(c) Polybromotrifluoroethylene;".

(62) Schedule 1, Dual-use Goods List, Category 1, 1C007(f)(1), before the semicolon—

Add

"(CAS 1344-28-1)".

(63) Schedule 1, Dual-use Goods List, Category 1, 1C008—

Repeal

"(a) (1) Bismaleimides;

(2) Aromatic polyamide-imides;"

Substitute

"(a) Imides as follows:

(1) Bismaleimides;

(2) Aromatic polyamide-imides (PAI) having a 'glass transition temperature (T_g)' exceeding 563 K (290 °C);".

(64) Schedule 1, Dual-use Goods List, Category 1, 1C008(b)(1), after "following"—

Add

"compounds".

(65) Schedule 1, Dual-use Goods List, Category 1—

Repeal 1C008(b)(2)

Substitute

"(2) Any of the following acids:

(a) Terephthalic acid (CAS 100-21-0);

(b) 6-hydroxy-2 naphthoic acid (CAS 16712-64-4); *or*

(c) 4-hydroxybenzoic acid (CAS 99-96-7);".

(66) Schedule 1, Dual-use Goods List, Category 1, 1C008, Technical Note, after "equivalents."—

Add

"In addition, for 1C008(a)(2) materials, 'glass transition temperature (T_g)' is determined on a PAI test specimen having initially been cured at a minimum temperature of 310°C for a minimum of 15 minutes.".

(67) Schedule 1, Dual-use Goods List, Category 1, 1C010—

(a) **Repeal**

"which may be used in organic "matrix", metallic "matrix" or carbon "matrix" "composite" structures or laminates,";

(b) **Repeal**

"control" (wherever appearing)

Substitute

"apply to";

(c) **Repeal**

"controlled" (wherever appearing)

Substitute

"specified".

(68) Schedule 1, English text, Dual-use Goods List, Category 1, 1C010(a)(1)—

Repeal

"A "specific modulus""

Substitute

"""Specific modulus""".

(69) Schedule 1, English text, Dual-use Goods List, Category 1, 1C010(a)(2)—

Repeal

"A "specific tensile strength""

Substitute

"""Specific tensile strength""".

(70) Schedule 1, Dual-use Goods List, Category 1—

Repeal 1C010(b)(1) and (2)

Substitute

"(1) "Specific modulus" exceeding 14.65×10^6 m; *and*

(2) "Specific tensile strength" exceeding 26.82×10^4 m;".

(71) Schedule 1, Dual-use Goods List, Category 1, 1C010(b)—

Repeal the Note

Substitute

"*Note:*

1C010(b) does not apply to:

1. "Fibrous or filamentary materials", for the repair of "civil aircraft" structures or laminates, having all of the following:
   (a) An area not exceeding 1 m^2;
   (b) A length not exceeding 2.5 m; *and*
   (c) A width exceeding 15 mm.
2. Mechanically chopped, milled or cut carbon "fibrous or filamentary materials" 25.0 mm or less in length.".

(72) Schedule 1, English text, Dual-use Goods List, Category 1, 1C010(c)(1)—

Repeal

"A "specific modulus""

Substitute

""Specific modulus"".

(73) Schedule 1, English text, Dual-use Goods List, Category 1, 1C010(c)(2)—

Repeal

"A melting"

Substitute

"Melting".

(74) Schedule 1, English text, Dual-use Goods List, Category 1, 1C010(c), Note 1—

Repeal

"3 weight percent"

Substitute

"3% by weight".

(75) Schedule 1, Dual-use Goods List, Category 1—

Repeal 1C010(e)

Substitute

"(e) Fully or partially resin-impregnated or pitch-impregnated "fibrous or filamentary materials" (prepregs), metal or carbon-coated "fibrous or filamentary materials" (preforms) or "carbon fibre preforms", having all of the following:
   (1) Any of the following:
      (a) Inorganic "fibrous or filamentary materials" specified by 1C010(c);
      (b) Organic or carbon "fibrous or filamentary materials", having all of the following:
         (1) "Specific modulus" exceeding 10.15×10^6m; *and*
         (2) "Specific tensile strength" exceeding 17.7×10^4m; *and*
   (2) Any of the following:
      (a) Resin or pitch specified by 1C008 or 1C009(b);
      (b) 'Dynamic Mechanical Analysis glass transition temperature (DMA T_g)' equal to or exceeding 453 K (180°C) and having a phenolic resin;
      (c) 'Dynamic Mechanical Analysis glass transition temperature (DMA T_g)' equal to or exceeding 505 K (232°C) and having a resin or pitch, not specified by 1C008 or 1C009(b), and not being a phenolic resin;

Notes:

1. Metal or carbon-coated "fibrous or filamentary materials" (preforms) or "carbon fibre preforms", not impregnated with resin or pitch, are specified by "fibrous or filamentary materials" in 1C010(a), 1C010(b) or 1C010(c).

2. 1C010(e) does not apply to:

   (a) Epoxy resin "matrix" impregnated carbon "fibrous or filamentary materials" (prepregs) for the repair of "civil aircraft" structures or laminates, having all of the following:

      1. An area not exceeding 1 m^2;

      2. A length not exceeding 2.5 m;

      3. A width exceeding 15 mm;

   (b) Fully or partially resin-impregnated or pitch-impregnated mechanically chopped, milled or cut carbon "fibrous or filamentary materials" 25.0 mm or less in length when using a resin or pitch other than those specified by 1C008 or 1C009(b).

Technical Note:

The 'Dynamic Mechanical Analysis glass transition temperature (DMA T_g)' for materials specified by 1C010(e) is determined using the method described in ASTM D 7028-07, or equivalent national standard, on a dry test specimen. In the case of thermoset materials, degree of cure of a dry test specimen shall be a minimum of 90% as defined by ASTM E 2160-04 or equivalent national standard.".

(76) Schedule 1, Dual-use Goods List, Category 1, 1C011—

Repeal the Nota Bene

Substitute

"*N.B.:*

See ML8(c)(5)(b) for metal powders mixed with other substances to form a mixture formulated for military purposes. See also 1C111.".

(77) Schedule 1, Dual-use Goods List, Category 1—

Repeal 1C011(b)

Substitute

"(b) Boron or boron alloys, with a particle size of 60 μm or less, as follows:

   (1) Boron with a purity of 85% by weight or more;

   (2) Boron alloys with a boron content of 85% by weight or more;

   Note:

   The metals or alloys specified by 1C011(b) also refer to metals or alloys encapsulated in aluminium, magnesium, zirconium or beryllium.".

(78) Schedule 1, Dual-use Goods List, Category 1, 1C011(c), before the semicolon—

Add

"(CAS 506-93-4)".

(79) Schedule 1, Dual-use Goods List, Category 1, 1C111(a)(4)(k), before the semicolon—

Add

"(CAS 3457-37-2)".

(80) Schedule 1, Dual-use Goods List, Category 1, 1C111(a)(4)(n), before the semicolon—

Add

"(CAS 13812-39-0)".

(81) Schedule 1, Dual-use Goods List, Category 1, after 1C111(a)(4)—

Add

"(5) High energy density materials, other than that specified in the Munitions List, usable in 'missiles' or unmanned aerial vehicles specified in 9A012:

(a) Mixed fuel that incorporate both solid and liquid fuels, such as boron slurry, having a mass-based energy density of 40×10^6 J/kg or greater;

(b) Other high energy density fuels and fuel additives (e.g. cubane, ionic solutions, JP-10) having a volume-based energy density of 37.5×10^9 J/m³ or greater, measured at 20 °C and one atmosphere (101.325 kPa) pressure;

Note:

1C111(a)(5)(b) does not control fossil refined fuels and biofuels produced from vegetables, including fuels for engines certified for use in civil aviation, unless specially formulated for 'missiles' or unmanned aerial vehicles specified in 9A012.

Technical Note:

In 1C111(a)(5) 'missiles' means complete rocket systems and unmanned aerial vehicle systems capable of a range exceeding 300 km.".

(82) Schedule 1, Dual-use Goods List, Category 1, 1C111(c)(6)(h), before the semicolon—

Add

"(CAS 1273-97-8)".

(83) Schedule 1, Dual-use Goods List, Category 1, after 1C111(c)(6)(o)—

Add

"*Note:*

1C111(c)(6)(o) does not control ferrocene derivatives that contain a six carbon aromatic functional group attached to the ferrocene molecule.".

(84) Schedule 1, Dual-use Goods List, Category 1—

Repeal 1C117

Substitute

"1C117 Materials for the fabrication of 'missiles' components as follows:

(a) Tungsten and alloys in particulate form with a tungsten content of 97% by weight or more and a particle size of 50×10^{-6} m (50 μm) or less;

(b) Molybdenum and alloys in particulate form with a molybdenum content of 97% by weight or more and a particle size of 50×10^{-6} m (50 μm) or less;

(c) Tungsten materials in solid form having all of the following:

(1) Any of the following material compositions:

(a) Tungsten and alloys containing 97% by weight or more of tungsten;

(b) Copper infiltrated tungsten containing 80% by weight or more of tungsten;

(c) Silver infiltrated tungsten containing 80% by weight or more of tungsten; *and*

(2) Able to be machined to any of the following products:

(a) Cylinders having a diameter of 120 mm or greater and a length of 50 mm or greater;

(b) Tubes having an inner diameter of 65 mm or greater and a wall thickness of 25 mm or greater and a length of 50 mm or greater;

(c) Blocks having a size of 120 mm by 120 mm by 50 mm or greater;

Technical Note:

In 1C117 'missiles' means complete rocket systems and unmanned aerial vehicle systems capable of a range exceeding 300 km.".

(85) Schedule 1, Dual-use Goods List, Category 1, 1C226, after "weight"—

Add

", other than that specified by 1C117".

(86) Schedule 1, English text, Dual-use Goods List, Category 1, 1C233, Technical Note—

Repeal

"per cent" (wherever appearing)

Substitute

"percent".

(87) Schedule 1, Chinese text, Dual-use Goods List, Category 1, 1C239—

Repeal

"引爆"

Substitute

"起爆".

(88) Schedule 1, Chinese text, Dual-use Goods List, Category 1, 1C350—

Repeal

"膦" (wherever appearing)

Substitute

"磷".

(89) Schedule 1, Dual-use Goods List, Category 1—

Repeal 1C351(a)(18).

(90) Schedule 1, Dual-use Goods List, Category 1, 1E002(c)(1)(c)(1), after "Zirconia"—

Add

"(CAS 1314-23-4)".

(91) Schedule 1, Dual-use Goods List, Category 2, 2A001, Note—

Repeal

"control"

Substitute

"apply to".

(92) Schedule 1, Dual-use Goods List, Category 2, 2A001(a)—

Repeal

"(or ANSI/ABMA Std 20 Tolerance Class ABEC-7 or RBEC-7, or other national equivalents)"

Substitute

"(or national equivalents)".

(93) Schedule 1, Dual-use Goods List, Category 2, 2A001(a), Note—

Repeal

"control"

Substitute

"apply to".

(94) Schedule 1, Dual-use Goods List, Category 2—

Repeal 2A001(b).

(95) Schedule 1, Dual-use Goods List, Category 2, 2B001(e)(2)—

Repeal

"Having two or more rotary axes which:"

Substitute

"At least two rotary axes having all of the following:".

(96) Schedule 1, Dual-use Goods List, Category 2, 2B005(g)—

Repeal

"allowing for the"

Substitute

"capable of".

(97) Schedule 1, Dual-use Goods List, Category 2—

Repeal 2B006(a)

Substitute

"(a) Computer controlled or "numerically controlled" coordinate measuring machines (CMM), having a three dimensional (volumetric) maximum permissible error of length measurement ($E_{0,MPE}$) at any point within the operating range of the machine (i.e. within the length of axes) equal to or less (better) than 1.7 + L/1 000 μm (L is the measured length in mm), according to ISO 10360-2 (2009);

N.B.:

See also 2B206.

Technical Note:

The $E_{0,MPE}$ of the most accurate configuration of the CMM specified by the manufacturer (e.g. best of the

following: probe, stylus length, motion parameters, environment) and with "all compensations available" is to be compared to the 1.7 + L/1 000 μm threshold.".

(98) Schedule 1, Dual-use Goods List, Category 2, 2B006(b)(1)(d)—

Repeal

"controlled"

Substitute

"specified".

(99) Schedule 1, Dual-use Goods List, Category 2, 2B006(b)(2), Note—

Repeal

"control"

Substitute

"apply to".

(100) Schedule 1, Dual-use Goods List, Category 2, 2B006—

Repeal the Note

Substitute

"*Note:*

2B006 includes machine tools, other than those specified by 2B001, that can be used as measuring machines if they meet or exceed the criteria specified for the measuring machine function.".

(101) Schedule 1, Chinese text, Dual-use Goods List, Category 2, 2B007(a)—

Repeal

"即時"

Substitute

"實時".

(102) Schedule 1, Dual-use Goods List, Category 2, 2B116(b) and Technical Note—

Repeal

"real-time"

Substitute

"real time".

(103) Schedule 1, Dual-use Goods List, Category 2, 2B206—

Repeal

"other than those controlled by"

Substitute

"other than those specified in".

(104) Schedule 1, Dual-use Goods List, Category 2—

Repeal 2B206(a)

Substitute

"(a) Computer controlled or numerically controlled coordinate measuring machines (CMM) having both of the following characteristics:

(1) Two or more axes; *and*

(2) A maximum permissible error of length measurement ($E_{0,MPE}$) along any axis (one dimensional), identified as E_{ox}, E_{oy}, or E_{oz}, equal to or less (better) than (1.25 + L/1 000) µm (where L is the measured length in millimetres) at any point within the operating range of the machine (i.e. within the length of the axis), tested according to ISO 10360-2 (2009);".

(105) Schedule 1, Dual-use Goods List, Category 2, 2B206—

Repeal the Technical Notes

Substitute

"*Technical Note:*

All parameters of measurement values in 2B206 represent plus/minus i.e. not total band.".

(106) Schedule 1, English text, Dual-use Goods List, Category 2, 2B350—

Repeal

"Alloys" (wherever appearing)

Substitute

"'Alloys'".

(107) Schedule 1, Dual-use Goods List, Category 2, 2B350—

Repeal

"alloys" (wherever appearing)

Substitute

"'alloys'".

(108) Schedule 1, Dual-use Goods List, Category 2, 2B350(g)—

Repeal

"nominal sizes"

Substitute

"'nominal sizes'".

(109) Schedule 1, Dual-use Goods List, Category 2, after 2B350(g)—

Add

"*Technical Note:*

The 'nominal size' is defined as the smaller of the inlet and outlet diameters.".

(110) Schedule 1, Dual-use Goods List, Category 2, 2B350—

Repeal the Technical Note

Substitute

"*Technical Notes:*

1. 'Carbon graphite' is a composition consisting of amorphous carbon and graphite, in which the graphite content is eight percent or more by weight.
2. For the listed materials in the above entries, the term 'alloy' when not accompanied by a specific elemental concentration is understood as identifying those alloys where the identified metal is present in a higher percentage by weight than any other element.".

(111) Schedule 1, Dual-use Goods List, Category 2, 2B351—

Repeal

"Toxic gas monitoring systems, as follows, and dedicated detectors therefor:"

Substitute

"Toxic gas monitoring systems and their dedicated detecting components, other than those specified in 1A004, as follows; and detectors; sensor devices; and replaceable sensor cartridges:".

(112) Schedule 1, Dual-use Goods List, Category 2, after 2D202—

Add

"2D351	"Software", other than that specified in 1D003, specially designed for "use" of equipment specified in 2B351;".

(113) Schedule 1, Dual-use Goods List, Category 3—

Repeal 3A001(a)(4).

(114) Schedule 1, Dual-use Goods List, Category 3, 3A001(a)(5)—

Repeal

"Analogue-to-digital and digital-to-analogue converter"

Substitute

"Analogue-to-Digital Converter (ADC) and Digital-to-Analogue Converter (DAC)".

(115) Schedule 1, Dual-use Goods List, Category 3, 3A001(a)(5)(a)(2)—

Repeal

"200"

Substitute

"300".

(116) Schedule 1, Dual-use Goods List, Category 3, 3A001(a)(5)(a)(3)—

Repeal

"105"

Substitute

"200".

(117) Schedule 1, Dual-use Goods List, Category 3, 3A001(a)(5)(a)(4)—

Repeal

"10"

Substitute

"125".

(118) Schedule 1, Dual-use Goods List, Category 3, 3A001(a)(5)(a)(5)—

Repeal

"2.5"

Substitute

"20".

(119) Schedule 1, Dual-use Goods List, Category 3, after 3A001(a)(5)(a)—

Add

"*Technical Notes:*

1. A resolution of n bit corresponds to a quantisation of 2^n levels.
2. The number of bits in the output word is equal to the resolution of the ADC.
3. The output rate is the maximum output rate of the converter, regardless of architecture or oversampling.
4. For 'multiple channel ADCs', the outputs are not aggregated and the output rate is the maximum output rate of any single channel.
5. For 'interleaved ADCs' or for 'multiple channel ADCs' that are specified to have an interleaved mode of operation, the outputs are aggregated and the output rate is the maximum combined total output rate of all of the outputs.
6. Vendors may also refer to the output rate as sampling rate, conversion rate or throughput rate. It is often specified in megahertz (MHz) or mega samples per second (MSPS).
7. For the purpose of measuring output rate, one output word per second is equivalent to one Hertz or one sample per second.
8. 'Multiple channel ADCs' are defined as devices which integrate more than one ADC, designed so that each ADC has a separate analogue input.
9. 'Interleaved ADCs' are defined as devices which have multiple ADC units that sample the same analogue input at different times such that when the outputs are aggregated, the analogue input has been effectively sampled and converted at a higher sampling rate.".

(120) Schedule 1, Dual-use Goods List, Category 3—

Repeal 3A001(a)(5)(b)

Substitute

"(b) Digital-to-Analogue Converters (DAC) having any of the following:

(1) A resolution of 10 bit or more with an 'adjusted update rate' of 3 500 MSPS or greater;

(2) A resolution of 12 bit or more with an 'adjusted update rate' of equal to or greater than 1 250 MSPS and having any of the following:

(a) A settling time less than 9 ns to 0.024% of full scale from a full scale step;

(b) A 'Spurious Free Dynamic Range' (SFDR) greater than 68 dBc (carrier) when synthesizing a full scale analogue signal of 100 MHz or the highest full scale analogue signal frequency specified below 100 MHz;

Technical Notes:

1. 'Spurious Free Dynamic Range' (SFDR) is defined as the ratio of the RMS value of the carrier frequency (maximum signal component) at the input of the DAC to the RMS value of the next largest noise or harmonic distortion component at its output.
2. SFDR is determined directly from the specification table or from the characterisation plots of SFDR versus frequency.
3. A signal is defined to be full scale when its amplitude is greater than -3 dBfs (full scale).
4. 'Adjusted update rate' for DACs:

(a) For conventional (non-interpolating) DACs, the 'adjusted update rate' is the rate at which the digital signal is converted to an analogue

signal and the output analogue values are changed by the DAC. For DACs where the interpolation mode may be bypassed (interpolation factor of one), the DAC should be considered as a conventional (non-interpolating) DAC.

(b) For interpolating DACs (oversampling DACs), the 'adjusted update rate' is defined as the DAC update rate divided by the smallest interpolating factor. For interpolating DACs, the 'adjusted update rate' may be referred to by different terms including:

(1) input data rate;

(2) input word rate;

(3) input sample rate;

(4) maximum total input bus rate; *and*

(5) maximum DAC clock rate for DAC clock input.".

(121) Schedule 1, Dual-use Goods List, Category 3, 3A001(a)(5)—

Repeal the Technical Notes.

(122) Schedule 1, Dual-use Goods List, Category 3, 3A001(b)(2)(a)—

Repeal

"6 GHz"

Substitute

"6.8 GHz".

(123) Schedule 1, Dual-use Goods List, Category 3, 3A001(b)(2)(d) and (f), before the semicolon—

Add

"and with an average output power greater than 0.1 nW".

(124) Schedule 1, Dual-use Goods List, Category 3, 3A001(b)(2)—

Repeal Note 1.

(125) Schedule 1, Dual-use Goods List, Category 3, 3A001(b)(2), Note 3—

Repeal

"control"

Substitute

"apply to".

(126) Schedule 1, Dual-use Goods List, Category 3, 3A001(b)(3)(a)—

Repeal

"6 GHz"

Substitute

"6.8 GHz".

(127) Schedule 1, Dual-use Goods List, Category 3, 3A001(b)(3)(b)—

Repeal

"6 GHz"

Substitute

"6.8 GHz".

(128) Schedule 1, Dual-use Goods List, Category 3, 3A001(b)(3)(e), before the semicolon—

Add

"and with an average output power greater than 0.1 nW".

(129) Schedule 1, Dual-use Goods List, Category 3, 3A001(b)(4)(a)—

Repeal

"6 GHz"

Substitute

"6.8 GHz".

(130) Schedule 1, Dual-use Goods List, Category 3, 3A001(b)(4)(b)—

Repeal

"6 GHz"

Substitute

"6.8 GHz".

(131) Schedule 1, Dual-use Goods List, Category 3, 3A001(b)(4)(c) and (e), before the semicolon—

Add

"and with an average output power greater than 0.1 nW".

(132) Schedule 1, Dual-use Goods List, Category 3, 3A001(b)(4)—

Repeal Note 1.

(133) Schedule 1, Dual-use Goods List, Category 3, 3A001(b)(11)—

Repeal

"from one selected frequency to another".

(134) Schedule 1, Dual-use Goods List, Category 3—

Repeal 3A002(c)

Substitute

"(c) Radio frequency "signal analysers" as follows:

(1) "Signal analysers" having a 3 dB resolution bandwidth (RBW) exceeding 10 MHz anywhere within the frequency range exceeding 31.8 GHz but not exceeding 37.5 GHz;

(2) "Signal analysers" having Displayed Average Noise Level (DANL) less (better) than −150 dBm/Hz anywhere within the frequency range exceeding 43.5 GHz but not exceeding 70 GHz;

(3) "Signal analysers" having a frequency exceeding 70 GHz;

(4) "Dynamic signal analysers" having a "real time bandwidth" exceeding 40 MHz;

Note:

3A002(c)(4) does not apply to those "dynamic signal analysers" using only constant percentage bandwidth filters (also known as octave or fractional octave filters).".

(135) Schedule 1, Dual-use Goods List, Category 3—

Repeal 3A002(d)(1) and (2)

Substitute

"(1) Specified to generate a 'pulse duration' of less than 100 ns anywhere within the synthesized frequency range exceeding 31.8 GHz but not exceeding 70 GHz;

(2) An output power exceeding 100 mW (20 dBm) anywhere within the synthesized frequency range exceeding 43.5 GHz but not exceeding 70 GHz;".

(136) Schedule 1, Dual-use Goods List, Category 3, 3A002(d)(3)—

Repeal

"from one selected frequency to another".

(137) Schedule 1, Dual-use Goods List, Category 3, 3A002(d)(3)(d)—

Repeal

"*or*".

(138) Schedule 1, Dual-use Goods List, Category 3—

Repeal 3A002(d)(3)(e)

Substitute

"(e) Less than 1 ms for any frequency change exceeding 550 MHz within the synthesized frequency range exceeding 43.5 GHz but not exceeding 56 GHz; *or*

(f) Less than 1 ms for any frequency change exceeding 2.2 GHz within the synthesized frequency range exceeding 56 GHz but not exceeding 70 GHz;".

(139) Schedule 1, Dual-use Goods List, Category 3, 3A002(d)(4)—

Repeal

"A maximum synthesised frequency exceeding 3.2 GHz and having all of the following:"

Substitute

"At synthesized frequencies exceeding 3.2 GHz but not exceeding 70 GHz, and having all of the following:".

(140) Schedule 1, Dual-use Goods List, Category 3, after 3A002(d)(4)—

Add

"(5) A maximum synthesized frequency exceeding 70 GHz;".

(141) Schedule 1, Dual-use Goods List, Category 3, 3A228(c), after "specified in 3A001(g)"—

Add

"or 3A001(h)".

(142) Schedule 1, Dual-use Goods List, Category 3, 3B001(d)(1) and (2)—

Repeal

"180"

Substitute

"65".

(143) Schedule 1, Dual-use Goods List, Category 3, 3B001(f)(1)(b)—

Repeal

"a minimum resolvable feature size of 180 nm or less"

Substitute

"a 'Minimum Resolvable Feature size' (MRF) of 95 nm or less".

(144) Schedule 1, Dual-use Goods List, Category 3, 3B001(f)(1)(b), Technical Note—

(a) **Repeal**

"The minimum resolvable feature size"

Substitute

"The 'Minimum Resolvable Feature size' (MRF)";

(b) **Repeal**

"0.45"

Substitute

"0.35";

(c) **Repeal**

"MRF = minimum resolvable feature size.".

(145) Schedule 1, Dual-use Goods List, Category 3, 3B001(f)(2)—

Repeal

"180"

Substitute

"95".

(146) Schedule 1, Dual-use Goods List, Category 3, 3E001, Note 2(a)—

Repeal

"of 0.5 μm or more"

Substitute

"at or above 0.130 μm".

(147) Schedule 1, Dual-use Goods List, Category 3, 3E001—

Repeal Note 2(b)

Substitute

"(b) Incorporating multi-layer structures with three or fewer metal layers.".

(148) Schedule 1, Dual-use Goods List, Category 4, 4A001(a)(1), Note—

Repeal

"or railway train applications"

Substitute

", railway train or "civil aircraft" applications".

(149) Schedule 1, Dual-use Goods List, Category 4, 4A001(a)(2)(c)—

Repeal

"1×10^{-7}"

Substitute

"1×10^{-8}".

(150) Schedule 1, Dual-use Goods List, Category 4, after 4A001(a)(2)(c)—

Add

"*Note:*

4A001(a)(2) does not apply to computers specially designed for "civil aircraft" applications.".

(151) Schedule 1, Dual-use Goods List, Category 5, Part 1, Note 1—

Repeal the Nota Bene

Substitute

"*N.B.:*

1. For "lasers" specially designed for telecommunications equipment or systems, see 6A005.
2. See also Category 5, Part 2 for equipment, components, and "software" performing or incorporating "information security" functions.".

(152) Schedule 1, Dual-use Goods List, Category 5, Part 1—

Repeal 5A001(c)

Substitute

"(c) Optical fibres of more than 500 m in length and specified by the manufacturer as being capable of withstanding a 'proof test' tensile stress of 2×10^9 N/m^2 or more;

N.B.:

For underwater umbilical cables, see 8A002(a)(3).

Technical Note:

'Proof Test': on-line or off-line production screen testing that dynamically applies a prescribed tensile stress over a 0.5 to 3 m length of fibre at a running rate of 2 to 5 m/s while passing between capstans approximately 150 mm in diameter. The ambient temperature is a nominal 293 K (20 °C) and relative humidity 40%. Equivalent national standards may be used for executing the proof test.".

(153) Schedule 1, Dual-use Goods List, Category 5, Part 1, 5A001(h)—

Repeal

"Electronic equipment"

Substitute

"Radio Frequency (RF) transmitting equipment".

(154) Schedule 1, Dual-use Goods List, Category 5, Part 1, 5A001(h)—

Repeal the Nota Bene

Substitute

"*N.B.:*

See also 5A001(f) and the Munitions List.".

(155) Schedule 1, Dual-use Goods List, Category 5, Part 1, after 5E001(b)(4)—

Add

"*Note:*

5E001(b)(4) does not apply to "technology" for the "development" of civil cellular radiocommunications systems.".

(156) Schedule 1, Dual-use Goods List, Category 5, Part 1, 5E001(d)(1)—

Repeal

"6 GHz"

Substitute

"6.8 GHz".

(157) Schedule 1, Dual-use Goods List, Category 5, Part 1, 5E001(d)(2)—

Repeal

"6 GHz"

Substitute

"6.8 GHz".

(158) Schedule 1, Dual-use Goods List, Category 5, Part 2, 5A002—

Repeal everything after 5A002(a)(9)

Substitute

"(b) Systems, equipment, application specific "electronic assemblies", modules and integrated circuits, designed

or modified to enable an item to achieve or exceed the controlled performance levels for functionality specified by 5A002(a) that would not otherwise be enabled;

Note:

5A002 does not include 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:

(a) The cryptographic capability is restricted for use in equipment or systems excluded from 5A002 by Note 4 in Category 5, Part 2 or paragraphs (d), (e), (f), (g) and (i) of this Note, and cannot be reprogrammed for any other use;

(b) Having all of the following:

(1) It is specially designed and limited to allow protection of 'personal data' stored within;

(2) Has been, or can only be, personalized for public or commercial transactions or individual identification;

(3) Where the cryptographic capability is not user-accessible;

Technical Note:

'Personal data' includes any data specific to a particular person or entity, such as the amount of money stored and data necessary for authentication.

(2) 'Readers/writers' specially designed or modified, and limited, for items specified by paragraph (a)(1) of this Note;

Technical Note:

'Readers/writers' include equipment that communicates with smart cards or electronically readable documents through a network.

(b) Deleted;

(c) Deleted;

(d) Cryptographic equipment specially designed and limited for banking use or money transactions;

Technical Note:

"Money transactions" in 5A002 Note (d) includes the collection and settlement of fares or credit functions.

(e) Portable or mobile radiotelephones for civil use (e.g. for use with commercial civil cellular radiocommunications systems) that are not capable of transmitting encrypted data directly to another radiotelephone or equipment (other than Radio Access Network (RAN) equipment), nor of passing encrypted data through RAN equipment (e.g. Radio Network Controller (RNC) or Base Station Controller (BSC));

(f) Cordless telephone equipment not capable of end-to-end encryption where the maximum effective range of unboosted cordless operation (i.e. a single, unrelayed hop between terminal and home basestation) is less than 400 metres according to the manufacturer's specifications;

(g) Portable or mobile radiotelephones and similar client wireless devices for civil use, that implement only published or commercial cryptographic standards (except for anti-piracy functions, which may be non-published) and also meet the provisions of paragraphs (b) to (e) of the Cryptography Note (Note 3 in Category 5, Part 2), that have been customized for a specific civil industry application with features that do not affect the

cryptographic functionality of these original non-customized devices;

(h) Deleted;

(i) Wireless "personal area network" equipment that implement only published or commercial cryptographic standards, where the cryptographic capability is limited to a nominal operating range not exceeding 30 metres according to the manufacturer's specifications;

(j) Equipment, having no functionality specified by 5A002(a)(2), 5A002(a)(4), 5A002(a)(7), or 5A002(a)(8), where all cryptographic capability specified by 5A002(a) meets any of the following:

(1) It cannot be used;

(2) It can only be made usable by means of "cryptographic activation";

N.B.:

See 5A002(a) for equipment that has undergone "cryptographic activation".".

(159) Schedule 1, Dual-use Goods List, Category 5, Part 2, 5D002—

Repeal everything after 5D002(c)(2)

Substitute

"(d) "Software" designed or modified to enable an item to achieve or exceed the controlled performance levels for functionality specified by 5A002(a) that would not otherwise be enabled;

Note:

5D002 does not control:

(a) "Software" required for the "use" of equipment excluded from control under the Note to 5A002;

(b) "Software" providing any of the functions of equipment excluded from control under the Note to 5A002.".

(160) Schedule 1, Dual-use Goods List, Category 5, Part 2—

Repeal 5E002

Substitute

"5E002 "Technology" as follows:

(a) "Technology" according to the General Technology Note for the "development", "production" or "use" of equipment specified by 5A002 or 5B002 or "software" specified by 5D002(a) or 5D002(c);

(b) "Technology" to enable an item to achieve or exceed the controlled performance levels for functionality specified by 5A002(a) that would not otherwise be enabled;".

(161) Schedule 1, Dual-use Goods List, Category 6, 6A001—

Repeal

"6A001 Acoustics"

Substitute

"6A001 Acoustic system, equipment and components, as follows:".

(162) Schedule 1, Dual-use Goods List, Category 6—

Repeal 6A001(a)(1)(a)

Substitute

"(a) Acoustic seabed survey equipment as follows:

(1) Surface vessel survey equipment designed for seabed topographic mapping and having all of the following:

(a) Designed to take measurements at an angle exceeding 20° from the vertical;

(b) Designed to measure seabed topography at seabed depths exceeding 600 m;

(c) 'Sounding resolution' less than 2; *and*

(d) 'Enhancement' of the depth accuracy through compensation for all the following:

(1) Motion of the acoustic sensor;

(2) In-water propagation from sensor to the seabed and back; *and*

(3) Sound speed at the sensor;

Technical Notes:

1. 'Sounding resolution' is the swath width (degrees) divided by the maximum number of soundings per swath.

2. 'Enhancement' includes the ability to compensate by external means.

(2) Underwater survey equipment designed for seabed topographic mapping and having all of the following:

(a) Designed or modified to operate at depths exceeding 300 m; *and*

(b) 'Sounding rate' greater than 3 800;

Technical Note:

'Sounding rate' is the product of the maximum speed (m/s) at which the sensor can operate and the maximum number of soundings per swath.

(3) Side Scan Sonar (SSS) or Synthetic Aperture Sonar (SAS), designed for seabed imaging and having all of the following:

(a) Designed or modified to operate at depths exceeding 500 m; *and*

(b) An 'area coverage rate' of greater than 570 m^2/s while operating with both an 'along track resolution' and 'across track resolution' of less than 15 cm;

Technical Notes:

1. 'Area coverage rate' (m^2/s) is twice the product of the maximum sonar range (m) and the maximum speed (m/s) at which the sensor can operate.
2. 'Along track resolution' (cm), for SSS only, is the product of azimuth (horizontal) beamwidth (degrees) and maximum sonar range (m) and 0.873.
3. 'Across track resolution' (cm) is 75 divided by the signal bandwidth (kHz).".

(163) Schedule 1, Dual-use Goods List, Category 6—

Repeal 6A001(a)(1)(d)

Substitute

"(d) Acoustic systems and equipment, designed to determine the position of surface vessels or underwater vehicles and having all of the following, and specially designed components therefor:

(1) Detection range exceeding 1 000 m;

(2) Positioning accuracy of less than 10 m rms (root mean square) when measured at a range of 1 000 m;

Note:

6A001(a)(1)(d) includes:

(a) Equipment using coherent "signal processing" between two or more beacons and the hydrophone

unit carried by the surface vessel or underwater vehicle;

(b) Equipment capable of automatically correcting speed-of-sound propagation errors for calculation of a point.".

(164) Schedule 1, Dual-use Goods List, Category 6, after 6A001(a)(1)(d)—

Add

"(e) Active individual sonars, specially designed or modified to detect, locate and automatically classify swimmers or divers, having all of the following:

(1) Detection range exceeding 530 m;

(2) Positioning accuracy of less than 15 m rms (root mean square) when measured at a range of 530 m;

(3) Transmitted pulse signal bandwidth exceeding 3 kHz;

N.B.:

For diver detection systems specially designed or modified for military use, see the Munitions List.

Note:

For 6A001(a)(1)(e), where multiple detection ranges are specified for various environments, the greatest detection range is used.".

(165) Schedule 1, Dual-use Goods List, Category 6, 6A001(a)(2)—

Repeal

"Passive (receiving, whether or not related in normal application to separate active equipment) systems"

Substitute

"Passive systems".

(166) Schedule 1, Dual-use Goods List, Category 6, after 6A001(a)(2)—

Add

"*Note:*

6A001(a)(2) also applies to receiving equipment, whether or not related in normal application to separate active equipment, and specially designed components therefor.".

(167) Schedule 1, Dual-use Goods List, Category 6—

Repeal 6A001(c).

(168) Schedule 1, Dual-use Goods List, Category 6, 6A002—

Repeal

"radiant sensitivity" (wherever appearing)

Substitute

""radiant sensitivity"".

(169) Schedule 1, Dual-use Goods List, Category 6, after 6A002(d)(3)—

Add

"*Note:*

6A002(d)(3) does not apply to encapsulated optical sensing fibres specially designed for bore hole sensing applications.".

(170) Schedule 1, Dual-use Goods List, Category 6, 6A003—

Repeal

"6A003	Cameras"

Substitute

"6A003	Cameras, systems or equipment, and components therefor, as follows:".

(171) Schedule 1, Dual-use Goods List, Category 6, 6A003, Nota Bene—

Repeal

"For cameras specially designed or modified for underwater use, see 8A002(d) and 8A002(e)."

Substitute

"For television and film-based photographic still cameras specially designed or modified for underwater use, see 8A002(d)(1) and 8A002(e).".

(172) Schedule 1, Dual-use Goods List, Category 6, after 6A003(b)(2)—

Add

"*Note:*

6A003(b)(2) does not apply to scanning cameras and scanning camera systems, specially designed for any of the following:

(a) Industrial or civilian photocopiers;

(b) Image scanners specially designed for civil, stationary, close proximity scanning applications (e.g. reproduction of images or print contained in documents, artwork or photographs);

(c) Medical equipment.".

(173) Schedule 1, Dual-use Goods List, Category 6, 6A003(b)(4), Note 4(c)—

Repeal

"radiant sensitivity"

Substitute

""radiant sensitivity"".

(174) Schedule 1, Dual-use Goods List, Category 6, 6A003(b)(4), after Note 4(c)(2)—

Add

"(3) Not specially designed or modified for underwater use;".

(175) Schedule 1, Dual-use Goods List, Category 6, after 6A005(c)(1)(b)—

Add

"*Note:*

6A005(c)(1) does not apply to dye lasers or other liquid lasers, having a multimode output and a wavelength of 150 nm or more but not exceeding 600 nm and all of the following:

(1) Output energy less than 1.5 J per pulse or a "peak power" less than 20 W;

(2) Average or CW output power less than 20 W.".

(176) Schedule 1, Dual-use Goods List, Category 6, 6A005(d)(1)(b)(1)—

Repeal

"10 W"

Substitute

"15 W".

(177) Schedule 1, Dual-use Goods List, Category 6, 6A005(d)(1)(c)—

Repeal

""laser" 'arrays' having"

Substitute

""laser" 'bars' having any of the following".

(178) Schedule 1, Dual-use Goods List, Category 6, 6A005(d)(1)(c)(1)—

Repeal

"80 W"

Substitute

"100 W".

(179) Schedule 1, Dual-use Goods List, Category 6—

Repeal 6A005(d)(1)(d)

Substitute

"(d) Semiconductor "laser" 'stacked arrays' (two-dimensional arrays) having any of the following:

(1) Wavelength less than 1 400 nm and having any of the following:

(a) Average or CW total output power less than 3 kW and having average or CW output 'power density' greater than 500 W/cm^2;

(b) Average or CW total output power equal to or exceeding 3 kW but less than or equal to 5 kW, and having average or CW output 'power density' greater than 350W/cm^2;

(c) Average or CW total output power exceeding 5 kW;

(d) Peak pulsed 'power density' exceeding 2 500 W/cm^2;

(e) Spatially coherent average or CW total output power, greater than 150 W;

(2) Wavelength greater than or equal to 1 400 nm but less than 1 900 nm, and having any of the following:

(a) Average or CW total output power less than 250 W and average or CW output 'power density' greater than 150 W/cm^2;

(b) Average or CW total output power equal to or exceeding 250 W but less than or equal to 500 W, and having average or CW output 'power density' greater than 50W/cm^2;

(c) Average or CW total output power exceeding 500 W;

(d) Peak pulsed 'power density' exceeding 500 W/cm^2;

(e) Spatially coherent average or CW total output power, exceeding 15 W;

(3) Wavelength greater than or equal to 1 900 nm and having any of the following:

(a) Average or CW output 'power density' greater than 50 W/cm^2;

(b) Average or CW output power greater than 10 W;

(c) Spatially coherent average or CW total output power, exceeding 1.5 W;

(4) At least one "laser" 'bar' specified by 6A005(d)(1)(c);

Technical Note:

For the purposes of 6A005(d)(1)(d), 'power density' means the total "laser" output power divided by the emitter surface area of the 'stacked array'.

(e) Semiconductor "laser" 'stacked arrays', other than those specified by 6A005(d)(1)(d), having all of the following:

(1) Specially designed or modified to be combined with other 'stacked arrays' to form a larger 'stacked array';

(2) Integrated connections, common for both electronics and cooling;

Notes:

1. 'Stacked arrays', formed by combining semiconductor "laser" 'stacked arrays' specified by 6A005(d)(1)(e), that are not designed to be further combined or modified are specified by 6A005(d)(1)(d).

2. 'Stacked arrays', formed by combining semiconductor "laser" 'stacked arrays' specified by 6A005(d)(1)(e), that are designed to be further combined or modified are specified by 6A005(d)(1)(e).

3. 6A005(d)(1)(e) does not apply to modular assemblies of single 'bars' designed to be fabricated into end-to-end stacked linear arrays.".

(180) Schedule 1, Dual-use Goods List, Category 6, 6A005(d)(1)—

Repeal the Technical Notes

Substitute

"*Technical Notes:*

1. Semiconductor "lasers" are commonly called "laser" diodes.

2. A 'bar' (also called a semiconductor "laser" 'bar', a "laser" diode 'bar' or diode 'bar') consists of multiple semiconductor "lasers" in a one-dimensional array.

3. A 'stacked array' consists of multiple 'bars' forming a two-dimensional array of semiconductor "lasers".".

(181) Schedule 1, Dual-use Goods List, Category 6, after 6A005(f)—

Add

"(g) 'Laser acoustic detection equipment' having all of the following:

(1) CW laser output power equal to or exceeding 20 mW;

(2) Laser frequency stability equal to or better (less) than 10 MHz;

(3) Laser wavelengths equal to or exceeding 1 000 nm but not exceeding 2 000 nm;

(4) Optical system resolution better (less) than 1 nm; *and*

(5) Optical Signal to Noise ratio equal to or exceeding 10^3;

Technical Note:

'Laser acoustic detection equipment' is sometimes referred to as a Laser Microphone or Particle Flow Detection Microphone.".

(182) Schedule 1, Chinese text, Dual-use Goods List, Category 6, 6A006(d)—

Repeal

"水底"

Substitute

"水下".

(183) Schedule 1, Dual-use Goods List, Category 6, after 6A006(d)—

Add

"(e) Underwater electromagnetic receivers incorporating magnetic field sensors specified by 6A006(a) or underwater electric field sensors specified by 6A006(b);".

(184) Schedule 1, Dual-use Goods List, Category 6, 6A008, Note (c)—

Repeal

"having no more than 12 resolvable elements per mm".

(185) Schedule 1, Dual-use Goods List, Category 6, 6A008, Note (d)—

Repeal the full stop

Substitute a semicolon.

(186) Schedule 1, Dual-use Goods List, Category 6, 6A008, after Note (d)—

Add

"(e) Precision Approach Radar (PAR) equipment conforming to ICAO standards and employing electronically steerable linear (1-dimensional) arrays or mechanically positioned passive antennae.".

(187) Schedule 1, Dual-use Goods List, Category 6, 6A008(e)—

Repeal

"phased".

(188) Schedule 1, Dual-use Goods List, Category 6, 6A008(f)—

Repeal the Note.

(189) Schedule 1, English text, Dual-use Goods List, Category 6, 6A008(j)(1)—

Repeal

""Space qualified""

Substitute

""Space-qualified"".

(190) Schedule 1, Dual-use Goods List, Category 6, 6A008(l)(1), Note—

Repeal

"control"

Substitute

"apply to".

(191) Schedule 1, Dual-use Goods List, Category 6—

Repeal 6A008(l)(2) and (3).

(192) Schedule 1, Dual-use Goods List, Category 6—

Repeal 6A008(l)(4) and the Note

Substitute

"(4) Configured to provide superposition and correlation, or fusion, of target data within six seconds from two or more "geographically dispersed" radar sensors to

improve the aggregate performance beyond that of any single sensor specified by 6A008(f) or 6A008(i);

N.B.:

See also ML5(b).

Note:

6A008(l)(4) does not apply to systems, equipment and assemblies used for marine traffic control.".

(193) Schedule 1, Dual-use Goods List, Category 6, 6A108(b)(1)—

Repeal

"real-time"

Substitute

"real time".

(194) Schedule 1, Dual-use Goods List, Category 6, 6A226(a) and (b), after "10 GPa"—

Add

"(100 kbar)".

(195) Schedule 1, Dual-use Goods List, Category 6—

(a) 6C004(b)(1), before the semicolon—

Add

"(CAS 59400-80-5)";

(b) 6C004(b)(2), before the semicolon—

Add

"(CAS 12002-67-4)";

(c) 6C004(b)(3), before the semicolon—

Add

"(CAS 16142-89-5)".

(196) Schedule 1, Dual-use Goods List, Category 6, 6C004(e)—

Repeal

"zirconium fluoride (ZrF_4) and hafnium fluoride (HfF_4)"

Substitute

"zirconium fluoride (ZrF_4) (CAS 7783-64-4) and hafnium fluoride (HfF_4) (CAS 13709-52-9)".

(197) Schedule 1, Chinese text, Dual-use Goods List, Category 6, 6D003(a)—

Repeal

"即時" (wherever appearing)

Substitute

"實時".

(198) Schedule 1, Dual-use Goods List, Category 6, after 6D003(a)(4)—

Add

"(5) "Software" or "source code", specially designed for all of the following:

(a) "Real time processing" of acoustic data from sonar systems specified by 6A001(a)(1)(e);

(b) Automatically detecting, classifying and determining the location of divers or swimmers;

N.B.:

For diver detection "software" or "source code", specially designed or modified for military use, see the Munitions List.".

(199) Schedule 1, Dual-use Goods List, Category 6, after 6D003(f)(2)—

Add

"(3) "Software" specially designed for "real time processing" of electromagnetic data using underwater electromagnetic receivers specified by 6A006(e);

(4) "Source code" for "real time processing" of electromagnetic data using underwater electromagnetic receivers specified by 6A006(e);".

(200) Schedule 1, Dual-use Goods List, Category 6—

Repeal 6D003(h)(1)

Substitute

"(1) Air Traffic Control (ATC) "software" application "programmes" designed to be hosted on general purpose computers located at Air Traffic Control centres and capable of accepting radar target data from more than four primary radars;".

(201) Schedule 1, Dual-use Goods List, Category 6, 6E003(a)(1), after "to achieve"—

Add

"an 'optical thickness'".

(202) Schedule 1, Dual-use Goods List, Category 6, 6E003(a)(1), after the Nota Bene—

Add

"*Technical Note:*

'Optical thickness' is the mathematical product of the index of refraction and the physical thickness of the coating.".

(203) Schedule 1, Dual-use Goods List, Category 7, 7A001(a)(2)—

Repeal

"exceeding 15 g and having:"

Substitute

"exceeding 15 g but less than or equal to 100 g and having all of the following:".

(204) Schedule 1, Dual-use Goods List, Category 7, after 7A001(a)(3)—

Add

"*Note:*

7A001(a)(1) and 7A001(a)(2) do not apply to accelerometers limited to measurement of only vibration or shock.".

(205) Schedule 1, Dual-use Goods List, Category 7—

Repeal 7A002(a), (b), (c) and (d)

Substitute

"(a) Specified to function at linear acceleration levels less than or equal to 100 g and having any of the following:

(1) A rate range of less than 500 degrees per second and having any of the following:

(a) A "bias" "stability" of less (better) than 0.5 degree per hour, when measured in a 1 g environment over a period of one month, and with respect to a fixed calibration value;

(b) An "angle random walk" of less (better) than or equal to 0.0035 degree per square root hour;

Note:

7A002(a)(1)(b) does not apply to 'spinning mass gyros'.

Technical Note:

'Spinning mass gyros' are gyros which use a continually rotating mass to sense angular motion.

(2) A rate range greater than or equal to 500 degrees per second and having any of the following:

(a) A "bias" "stability" of less (better) than 40 degrees per hour, when measured in a 1 g environment over a period of three minutes, and with respect to a fixed calibration value;

(b) An "angle random walk" of less (better) than or equal to 0.2 degree per square root hour;

Note:

7A002(a)(2)(b) does not apply to 'spinning mass gyros'.

(b) Specified to function at linear acceleration levels exceeding 100 g;".

(206) Schedule 1, Dual-use Goods List, Category 7, 7A003(d)—

Repeal

", and specially designed components for those Inertial Measurement equipment".

(207) Schedule 1, Dual-use Goods List, Category 7—

Repeal 7A005

Substitute

"7A005 Global Navigation Satellite Systems (GNSS) receiving equipment having any of the following and specially designed components therefor:

N.B.:

See also 7A105. For equipment specially designed for military use, see ML11.

(a) Employing a decryption algorithm specially designed or modified for government use to access the ranging code for position and time;

(b) Employing 'adaptive antenna systems';

Note:

7A005(b) does not apply to GNSS receiving equipment that only uses components designed to filter, switch, or combine signals from multiple omni-directional antennae that

do not implement adaptive antenna techniques.

Technical Note:

For the purposes of 7A005(b) 'adaptive antenna systems' dynamically generate one or more spatial nulls in an antenna array pattern by signal processing in the time domain or frequency domain.".

(208) Schedule 1, Dual-use Goods List, Category 7, 7A101, Note—

Repeal

"specify accelerometers which are"

Substitute

"control accelerometers".

(209) Schedule 1, Dual-use Goods List, Category 7, 7B001, Technical Note 2, after "shipped to the manufacturer."—

Add

"Maintenance Level II does not include the disassembly or repair of specified accelerometers or gyro sensors.".

(210) Schedule 1, Dual-use Goods List, Category 7, 7B001—

Repeal the Nota Bene.

(211) Schedule 1, Dual-use Goods List, Category 7, 7D003(b)(2)—

Repeal

"(i.e. GPS or GLONASS)"

Substitute

"(GNSS)".

(212) Schedule 1, Dual-use Goods List, Category 7, 7E004(a)(3)—

Repeal

"Raster-type head-up displays or three"

Substitute

"Three".

(213) Schedule 1, Dual-use Goods List, Category 7—

Repeal 7E004(a)(4).

(214) Schedule 1, Chinese text, Dual-use Goods List, Category 7, 7E004(b)(1) and (4)—

Repeal

"即時"

Substitute

"實時".

(215) Schedule 1, Dual-use Goods List, Category 7, 7E004(b)(6)—

Repeal the Nota Bene

Substitute

"*N.B.:*

For "technology" for Full Authority Digital Engine Control Systems ("FADEC Systems"), see 9E003(h).".

(216) Schedule 1, Dual-use Goods List, Category 8, 8A001(d)(1)—

Repeal

"real-time"

Substitute

"real time".

(217) Schedule 1, Dual-use Goods List, Category 8—

Repeal 8A001(d)(2) and (3)

Substitute

"(2) Acoustic data or command link;

(3) Optical data or command link exceeding 1 000 m;".

(218) Schedule 1, Dual-use Goods List, Category 8—

Repeal 8A002(f).

(219) Schedule 1, Dual-use Goods List, Category 8—

Repeal 8A002(i)(1)

Substitute

"(1) Systems which control the manipulator using information from sensors which measure any of the following:

(a) Torque or force applied to an external object;

(b) Tactile sense between the manipulator and an external object; *or*".

(220) Schedule 1, Chinese text, Dual-use Goods List, Category 8, 8A002(j)(3)—

Repeal

"燃料倉"

Substitute

"燃料電池".

(221) Schedule 1, Chinese text, Dual-use Goods List, Category 8, 8A002(o)(1)(d)—

Repeal

"增殖"

Substitute

"K 因子".

(222) Schedule 1, Dual-use Goods List, Category 8—

Repeal 8A002(o)(3)(b)

Substitute

"(b) 'Active noise reduction or cancellation systems' or magnetic bearings, specially designed for power transmission systems;

Technical Note:

'Active noise reduction or cancellation systems' incorporate electronic control systems capable of actively reducing equipment vibration by the generation of anti-noise or anti-vibration signals directly to the source.".

(223) Schedule 1, Dual-use Goods List, Category 8—

Repeal 8A002(p) and (q)

Substitute

"(p) Pumpjet propulsion systems having all of the following:

(1) Power output exceeding 2.5 MW;

(2) Using divergent nozzle and flow conditioning vane techniques to improve propulsive efficiency or reduce propulsion-generated underwater-radiated noise;

(q) Underwater swimming and diving equipment as follows:

(1) Closed circuit rebreathers;

(2) Semi-closed circuit rebreathers;

Note:

8A002(q) does not apply to individual rebreathers for personal use when accompanying their users.

(r) Diver deterrent acoustic systems specially designed or modified to disrupt divers and having a sound pressure level equal to or exceeding 190 dB (reference 1 μPa at 1 m) at frequencies of 200 Hz and below;

Notes:

1. 8A002(r) does not apply to diver deterrent systems based on underwater explosive devices, air guns or combustible sources.

2. 8A002(r) includes diver deterrent acoustic systems that use spark gap sources, also known as plasma sound sources.".

(224) Schedule 1, Dual-use Goods List, Category 9, 9A001(a)—

Repeal

"controlled by 9E003(a)"

Substitute

"specified by 9E003(a), 9E003(h) or 9E003(i)".

(225) Schedule 1, Dual-use Goods List, Category 9, 9A001(a), Note—

Repeal

"control"

Substitute

"apply to".

(226) Schedule 1, Dual-use Goods List, Category 9, 9A003—

Repeal

"controlled by 9E003(a), for the following gas turbine engine propulsion systems"

Substitute

"specified by 9E003(a), 9E003(h) or 9E003(i), for any of the following gas turbine engine propulsion systems".

(227) Schedule 1, Dual-use Goods List, Category 9, 9A003(a)—

Repeal

"Controlled"

Substitute

"Specified".

(228) Schedule 1, Dual-use Goods List, Category 9, 9A101—

Repeal

"(including turbocompound engines), other than those controlled by"

Substitute

", other than those specified in".

(229) Schedule 1, Dual-use Goods List, Category 9, 9A101(b)—

Repeal

"or in 'missiles' regardless of thrust or specific fuel consumption"

Substitute

"or unmanned aerial vehicles specified in 9A012".

(230) Schedule 1, Dual-use Goods List, Category 9, 9A101(b)—

Repeal the Technical Note.

(231) Schedule 1, Dual-use Goods List, Category 9, 9B001—

Repeal

"tip shroud"

Substitute

""tip shroud"".

(232) Schedule 1, Dual-use Goods List, Category 9—

Repeal 9B002

Substitute

"9B002 On-line (real time) control systems, instrumentation (including sensors) or automated data acquisition and processing equipment, having all of the following:

(a) Specially designed for the "development" of gas turbine engines, assemblies or components; *and*

(b) Incorporating "technology" specified by 9E003(h) or 9E003(i);".

(233) Schedule 1, Chinese text, Dual-use Goods List, Category 9, 9B005—

Repeal

"(即時)"

Substitute

"(實時)".

(234) Schedule 1, Dual-use Goods List, Category 9—

Repeal 9B008

Substitute

"9B008 Direct measurement wall skin friction transducers specially designed to operate at a test flow total (stagnation) temperature exceeding 833 K (560°C);".

(235) Schedule 1, Dual-use Goods List, Category 9—

Repeal 9D003

Substitute

"9D003 "Software" incorporating "technology" specified by 9E003(h) and used in "FADEC Systems" for propulsion systems specified by 9A or equipment specified by 9B;".

(236) Schedule 1, Chinese text, Dual-use Goods List, Category 9, 9D004(b)—

Repeal

"即時"

Substitute

"實時".

(237) Schedule 1, Dual-use Goods List, Category 9, 9D004(f)—

Repeal

"tip-shrouds"

Substitute

""tip shrouds"".

(238) Schedule 1, Dual-use Goods List, Category 9, 9E003(a)—

Repeal

"tip-shrouds" (wherever appearing)

Substitute

""tip shrouds"".

(239) Schedule 1, Dual-use Goods List, Category 9—

Repeal 9E003(a)(8)

Substitute

"(8) 'Damage tolerant' gas turbine engine rotor components using powder metallurgy materials specified by 1C002(b);

Technical Note:

'Damage tolerant' components are designed using methodology and substantiation to predict and limit crack growth.".

(240) Schedule 1, Dual-use Goods List, Category 9—

Repeal 9E003(a)(9) and (10).

(241) Schedule 1, Dual-use Goods List, Category 9, after 9E003(g)—

Add

"(h) "Technology" for gas turbine engine "FADEC Systems" as follows:

(1) "Development" "technology" for deriving the functional requirements for the components necessary for the "FADEC Systems" to regulate engine thrust or shaft power (e.g. feedback sensor

time constants and accuracies, fuel valve slew rate);

(2) "Development" or "production" "technology" for control and diagnostic components unique to the "FADEC Systems" and used to regulate engine thrust or shaft power;

(3) "Development" "technology" for the control law algorithms, including "source code", unique to the "FADEC Systems" and used to regulate engine thrust or shaft power;

Note:

9E003(h) does not apply to technical data related to engine-aircraft integration required by the civil aviation certification authorities to be published for general airline use (e.g. installation manuals, operating instructions, instructions for continued airworthiness) or interface functions (e.g. input/output processing, airframe thrust or shaft power demand).

(i) "Technology" for adjustable flow path systems designed to maintain engine stability for gas generator turbines, fan or power turbines, or propelling nozzles, as follows:

(1) "Development" "technology" for deriving the functional requirements for the components that maintain engine stability;

(2) "Development" or "production" "technology" for components unique to the adjustable flow path system and that maintain engine stability;

(3) "Development" "technology" for the control law algorithms, including "source code", unique to the adjustable flow path system and that maintain engine stability;

Note:

9E003(i) does not apply to "development" or "production" "technology" for any of the following:

(a) Inlet guide vanes;

(b) Variable pitch fans or prop-fans;

(c) Variable compressor vanes;

(d) Compressor bleed valves;

(e) Adjustable flow path geometry for reverse thrust.".

(242) Schedule 1, Definitions of terms, definition of ***All compensations available***, after "the particular machine-tool model"—

Add

"or measuring errors for the particular coordinate measuring machine".

(243) Schedule 1, English text, Definitions of terms, definitions of ***Effective gram*** and ***Effective gramme***—

Repeal

"per cent" (wherever appearing)

Substitute

"percent".

(244) Schedule 1, Definitions of terms, definition of ***Flight control optical sensor array***—

Repeal

"real-time"

Substitute

"real time".

(245) Schedule 1, Definitions of terms, definition of ***Frequency synthesiser***—

Repeal

"or signal generator".

(246) Schedule 1, Definitions of terms, definition of ***Information security***, after "This includes "cryptography","—

Add

""cryptographic activation",".

(247) Schedule 1, Definitions of terms, definition of ***Object code***—

Repeal

"converted"

Substitute

"compiled".

(248) Schedule 1, Definitions of terms, definition of ***Real-time bandwidth***—

(a) **Repeal**

"Real-time"

Substitute

"Real time";

(b) **Repeal**

"即時"

Substitute

"實時";

(c) **Repeal**

"real-time"

Substitute

"real time".

(249) Schedule 1, English text, Definitions of terms, definition of ***Uranium enriched in the isotopes 235 or 233***—

Repeal

"per cent"

Substitute

"percent".

(250) Schedule 1, Chinese text, Definitions of terms, definition of ***自動目標追蹤***—

Repeal

"即時"

Substitute

"實時".

(251) Schedule 1, Definitions of terms, definition of ***Real time processing***—

Repeal

"即時"

Substitute

"實時".

(252) Schedule 1, Chinese text, Definitions of terms, definition of ***相結連的雷達感測器***—

Repeal

"即時"

Substitute

"實時".

(253) Schedule 1, Chinese text, Definitions of terms, definition of ***飛行全控***—

Repeal

"即時"

Substitute

"實時".

(254) Schedule 1, Definitions of terms—

Repeal the definitions of *CE*, *Computing element ("CE")*, *Data signalling rate*, *Dynamic adaptive routing*, *FADEC*, *Frequency switching time*, *Full Authority Digital Engine Control ("FADEC")*, *Hybrid computer*, *Interconnected radar sensors*, *Personalized smart card*, *Q-switched laser*, *Terminal interface equipment* and *Three dimensional vector rate*.

(255) Schedule 1, Definitions of terms—

Add in alphabetical order

"5 "Cryptographic activation" (啟動密碼)

Any technique that activates or enables cryptographic capability, via a secure mechanism that is implemented by the manufacturer of the item and is uniquely bound to the item or customer for which the cryptographic capability is being activated or enabled (e.g. a serial number-based licence key or an authentication instrument such as a digitally signed certificate).

Technical Note:

"Cryptographic activation" techniques and mechanisms may be implemented as hardware, "software" or "technology".

7 9 "FADEC Systems" (FADEC 系統)

Full Authority Digital Engine Control Systems—A digital electronic control system for a gas turbine engine that is able to autonomously control the engine throughout its whole operating range from demanded engine start until demanded engine shut-down, in both normal and fault conditions.

3 5 "Frequency switching time" (頻率切換時間)

The time (i.e. delay) taken by a signal when switched from an initial specified output frequency, to arrive at or within ±0.05% of a final specified output frequency. Items having a specified frequency range of less than ±0.05% around their centre frequency are defined to be incapable of frequency switching.

8 "Fuel cell" (燃料電池)

ML 17 An electrochemical device that converts chemical energy directly into Direct Current (DC) electricity by consuming fuel from an external source.

6 "Radiant sensitivity" (輻射靈敏度)

Radiant sensitivity (mA/W) = 0.807 × (wavelength in nm) × Quantum Efficiency (QE)

Technical Note:

QE is usually expressed as a percentage; however, for the purposes of this formula QE is expressed as a decimal number less than one, e.g. 78% is 0.78.

9 "Tip shroud" (葉尖覆環)

A stationary ring component (solid or segmented) attached to the inner surface of the engine turbine casing or a feature at the outer tip of the turbine blade, which primarily provides a gas seal between the stationary and rotating components.".

Acting Director-General of Trade and Industry

10 November 2011

Explanatory Note

This Order revises Schedule 1 to the Import and Export (Strategic Commodities) Regulations (Cap. 60 sub. leg. G) (***Regulations***) to reflect the latest changes in the control lists of strategic commodities adopted by various international non-proliferation regimes. The Order also makes certain minor amendments to Schedule 1 to the Regulations for consistency sake.