National Strategic Goods List
2021 Dual Use List (Annex 2) Summary of Changes

INTRODUCTION

This document summarizes the amendments to Annex II of the National Strategic Goods List (NSGL) - the Dual Use Goods List. Amendments, revisions, new and deleted entries in the 2021 NSGL can be found in the Official Gazette and DTI – STMO website: https://www.dti.gov.ph/business/strategictrade.

SUMMARY OF CHANGES FOR EACH SECTION OF NSGL ANNEX 2:

New Notes	New Entry
General Notes to Annex II	5. The reference standards referred to in this list should be the latest unless otherwise specified.

New/ Deleted Acronyms	Specific Entries
CEP	Circular Error Probable
EEPROMS	Electrically Erasable Programmable Read Only Memory [deleted]
ENOB	Effective Number of Bits
EUV	Extreme Ultraviolet
EMP	Electromagnetic Pulse
ESD	Electrostatic Discharge
HDMI	High-Definition Multimedia Interface
LTT	Light Triggering Thyristor
MRAM	Magnetic Random Access Memory
NIJ	National Institute of Justice
PDK	Process Design Kit
QE	Quantum Efficiency
rms	root mean square
ROIC	Read-out Integrated Circuit
WHO	World Health Organization

New/ Amended Definitions	Specific Entries
"Cyber incident response"	(4) means the process of exchanging necessary information on a cybersecurity incident with individuals or organizations responsible for conducting or coordinating remediation to address the cybersecurity incident.
"Cryptography"	includes decryption.
"Equivalent standards"	(1) means comparable national or international standards recognized by the Philippines or Wassenaar Arrangement Participating States and applicable to the relevant entry.
"Hard selectors"	(5) means data or set of data, related to an individual (e.g., family name, given name, email, street address, phone number or group affiliations).
"Linearity"	(2) (Usually measured in terms of non-linearity) means the maximum deviation of the actual characteristic (average of upscale and downscale readings), positive or negative, from a straight line so positioned as to equalize and minimize the maximum deviations
"Personal area network"	(5) means a data communication system having all of the following characteristics: a. Allows an arbitrary number of independent or interconnected 'data devices' to communicate directly with each other; and b. Is confined to the communication between devices within the immediate physical vicinity of an individual person or device controller (e.g., single room, office, or automobile). Technical Notes: 1. 'Data device' means equipment capable of transmitting or receiving sequences of digital information. 2. The "local area network" extends beyond the geographical area of the "personal area network".
"Satellite navigation system"	(5 7) means a system consisting of ground stations, a constellation of satellites, and receivers, that enables receiver locations to be calculated on the basis of signals received from the satellites. It includes Global Navigation Satellite Systems (GNSS) and Regional Navigation Satellite Systems (RNSS).
"Sub-orbital craft"	(9) means a craft having an enclosure designed for the transport of people or cargo which is designed to: a. Operate above the stratosphere; b. Perform a non-orbital trajectory; and

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	c. Land back on Earth with the people or cargo intact.
"Superalloys"	(2 9) means nickel-, cobalt- or iron-base alloys having a stress rupture life greater than 1 000 hours at 400 MPa at 922 K (649°C) or higher.
"Vacuum electronic devices"	(3) means electronic devices based on the interaction of an electron beam with an electro-magnetic wave propagating in a vacuum circuit or interacting with radio-frequency vacuum cavity resonators. "Vacuum electronic devices" include klystrons, travelling-wave tubes, and their derivatives.
"Vulnerability disclosure"	(4) means the process of identifying, reporting or communicating a vulnerability to, or analyzing a vulnerability with, individuals or organizations responsible for conducting or coordinating remediation for the purpose of resolving the vulnerability.

Category 0	New or Additional Entries/ Comments
0B001.b.11., 0B001.c.3, 0B001.e.1., 0B001.e.2., 0B001.f.1., 0B001.g.3., 0B002.g., 0B004.b.2, 0B004.b.6, 0C005	Minor editorial change.
0B006 *Notes a. & b.*, 0C004 *Note 1*	Notes amended

Category 1	New or Additional Entries/ Comments
1A002 *Note 5*	<u>Note 5</u>: 1A002.b.1. does not control mechanically chopped, milled, or cut carbon "fibrous or filamentary materials" 25,0 mm or less in length.
1A005.b.	National equivalents replaced by "equivalent standards"
1B002	Entry rewritten to include cascading structure
1B231.b.2	Minor change
1C001.a. *Note 1 & Tech Note*	e. Planar absorbers having no magnetic loss and fabricated from 'open-cell foam' plastic material with a density of 0,15 g/cm^3 or less. Technical Note: 'Open-cell foams' are flexible and porous materials, having an inner structure open to the atmosphere. 'Open-cell foams' are also known as reticulated foams.
1C001.a *Note 1.d.2*	Parameter amended
1C002 *Tech Note 3*	Technical note amended
1C006.d.	Chapeaux amended
1C010.c.1.	Sub-paras. amended to include cascading structure
1C350.1. to 65.	'CAS' added before the number in each entry.
1C350.66, .67, .68, .69, .70, .71, .72, .73, .74, .75, .76, .77, .78, .79, .80, .81, .82, .83, .84, .85, .86, .87, .88 & .89	66. Methyl dichlorophosphate (CAS 677-24-7); 67. Ethyl dichlorophosphate (CAS 1498-51-7); 68. Methyl difluorophosphate (CAS 22382-13-4); 69. Ethyl difluorophosphate (CAS 460-52-6); 70. Diethyl chlorophosphite (CAS 589-57-1); 71. Methyl chlorofluorophosphate (CAS 754-01-8); 72. Ethyl chlorofluorophosphate (CAS 762-77-6); 73. N,N-Dimethylformamidine (CAS 44205-42-7);s 74. N,N-Diethylformamidine (CAS 90324-67-7); 75. N,N-Dipropylformamidine (CAS 48044-20-8); 76. N,N-Diisopropylformamidine (CAS 857522-08-8); 77. N,N-Dimethylacetamidine (CAS 2909-14-0); 78. N,N-Diethylacetamidine (CAS 14277-06-6); 79. N,N-Dipropylacetamidine (CAS 1339586-99-0); 80. N,N-Dimethylpropanamidine (CAS 56776-14-8); 81. N,N-Diethylpropanamidine (CAS 84764-73-8); 82. N,N-Dipropylpropanamidine (CAS 1341496-89-6); 83. N,N-Dimethylbutanamidine (CAS 1340437-35-5); 84. N,N-Diethylbutanamidine (CAS 53510-30-8); 85. N,N-Dipropylbutanamidine (CAS 1342422-35-8); 86. N,N-Diisopropylbutanamidine (CAS 1315467-17-4); 87. N,N-Dimethylisobutanamidine (CAS 321881-25-8); 88. N,N-Diethylisobutanamidine (CAS 1342789-47-2); 89. N,N-Dipropylisobutanamidine (CAS 1342700-45-1).
1C350 *Note 3*	Note amended
1C351.a.59	Middle East respiratory syndrome-related coronavirus (MERS-related coronavirus)
1C353.b.	'not used'
1A006, 1A006 *Tech*	Editorial change

Note, 1C003.c.2., 1C010.e.2.c., 1C353	

Category 2	New or Additional Entries/ Comments
2A001	Chapeaux amended
2A001 *Note*	Note deleted
2A001.a.	"or Class 2" added after "Class 4"
2A001.c	Parameter amended
2A101	"of" added after "having all"
2B001 *Note 4*	Note 4: A machine tool having an additive manufacturing capability in addition to a turning, milling or grinding capability must be evaluated against each applicable entry 2B001.a.,.b. or.c.
2B003	Gear machine tool entry amended including a cascaded structure for the control criteria
2B006.b.1.	Technical Note 2: 'measuring range' means the distance between the minimum and maximum working distance.
2B350.g.1.a., 2.a. & *Tech Note 3*	Parameters changed for nominal size (DN) and nominal pipe size (NPS) of valves; new Technical Note 3 with reference inter alia to ISO standard (DN) and ASME standard (NPS)
2B352.b. *Tech Notes*	Technical Notes: 2. Cultivation chamber holding devices include single-use cultivation chambers with rigid walls.

Category 3	New or Additional Entries/ Comments
3A *Note 2*	Comma added after "3A001.a.14. " to ensure that the description applies to ICs in all entries referenced.
3A *Note 3*	Note 3: The status of wafers (finished or unfinished), in which the function has been determined, is to be evaluated against the parameters of 3A001.a., 3A001.b., 3A001.d., 3A001.e.4., 3A001.g., 3A001.h., or 3A001.i.
3A001.a. *Note* 1 & *Note*	Note 1 moved to 3A as Note 3; Note 2 renamed Note
3A001.a.2. *Note*	"designed" added after "integrated circuits"
3A001.a.5.b.	2. A resolution of 12 bit or more and having any of the following: a. An 'adjusted update rate' of exceeding than 1 250 MSPS but not exceeding 3 500 MSPS, and having any of the following: 1. A settling time less than 9 ns to arrive at or within 0,024 % of full scale from a full scale step; or 2. 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; or b. An adjust update rate' exceeding 3 500 MSPS;
3A001.b. *Tech Note*	Deleted
3A001.b.1. & *Notes 1 & 2*, 3A001.b.1.a., b., c., d. & *Tech Note*, 3A001.b.8, 3A001.b.9. 3E003.g.	"Vacuum electronic device(s)" now global definition.
3A001.b.3.f.	f. Other than those specified in 3A001.b.3.a. to 3A001.b.3.e and rated for operation with a peak saturated power output greater than 5 W (37,0 dBm) at all frequencies exceeding 8,5 GHz up to and including 31,8 GHz;
3A001.b.3. *Note 1*	Note amended
3A002.a.6.b.	Digital data recorders entry amended to clarify signal processing
3A002.d.5. & *Tech Note*	5. An 'RF modulation bandwidth' of digital baseband signals as specified by any of the following: a. Exceeding 2,2 GHz within the frequency range exceeding 4,8 GHz but not exceeding 31,8 GHz; b. Exceeding 550 MHz within the frequency range exceeding 31,8 GHz but not exceeding 37 GHz; or c. Exceeding 2,2 GHz within the frequency range exceeding 37 GHz but not exceeding 90 GHz; or Technical Note: 'RF modulation bandwidth' is the Radio Frequency (RF) bandwidth occupied by a digitally encoded baseband signal modulated onto an RF signal. It is also referred to as information bandwidth or vector modulation bandwidth. I/Q digital modulation is the technical method for producing a vector-modulated RF output signal, and that output signal is typically specified as having an 'RF modulation bandwidth'.
3A002.d.6.	6. A maximum frequency exceeding 90 GHz;
3B001.h.	Multi-layer mask control amended; sub-entry 1 deleted and sub-entry 2 combined into control
3B001.h. N.B.	New Nota Bene to reference control entry 6B002
3D003, *Tech Note* & *(Note)*	Chapeaux amended; new Technical Note for local definition for 'computational lithography'; former Note deleted 'Computational lithography' "software" specially designed for the "development" of patterns on EUV-lithography masks or reticles.

	Technical Note: 'Computational lithography' is the use of computer modelling to predict, correct, optimize and verify imaging performance of the lithography process over a range of patterns, processes, and system conditions.
3E002.a., b., c., *Tech Notes 1 & 2*	Technical Notes: 1. For the purpose of 3E002.a. and 3E002.b., 'floating-point' is defined by IEEE-754. 2. For the purpose of 3E002.c., 'fixed-point' refers to a fixed-width real number with both an integer component and a fractional component, and which does not include integer-only formats.
3E004	"Technology" "required" for the slicing, grinding and polishing of 300 mm diameter silicon wafers to achieve a 'Site Front least sQuares Range' ('SFQR') less than or equal to 20 nm at any site of 26 mm × 8 mm on the front surface of the wafer and an edge exclusion less than or equal to 2 mm. Technical Note: For the purposes of 3E004 'SFQR' is the range of maximum deviation and minimum deviation from front reference plane, calculated by least square method with all front surface data including site boundary within a site.
3D005	"Software" specially designed to restore normal operation of a microcomputer, "microprocessor microcircuit" or "microcomputer microcircuit" within 1 ms after an Electromagnetic Pulse (EMP) or Electrostatic Discharge (ESD) disruption, without loss of continuation of operation.

Category 4	New or Additional Entries/ Comments
4E001 *Note 1 & Tech Notes*	Definitions "vulnerability disclosure" and "cyber incident response" changed from local to global definitions; Technical Notes 1 and 2 deleted

Category 5 Part 1	New or Additional Entries/ Comments
5A001.h.1.	Acronym IEDs added after Improvised Explosive Devices
5A001.j.2.a. & *Tech Note*	Definition "hard selectors" changed from a local to a global definition; Technical Note deleted

5D001.e., *Tech Notes & Note*	e. "Software", other than that specified in 5D001.a. or 5D001.c., specially designed or modified for monitoring or analysis by law enforcement, providing all of the following:
	
	1. Execution of searches on the basis of "hard selectors" of either the content of communication or metadata acquired from a communications service provider using a 'handover interface'; and
	2. Mapping of the relational network or tracking the movement of targeted individuals based on the results of searches on content of communication or metadata or searches as described in 5D001.e.1.
	
	Technical Notes:
	1. For the purposes of 5D001.e., a 'handover interface' is a physical and logical interface, designed for use by an authorized law enforcement authority, across which targeted interception measures are requested from a communications service provider and the results of interception are delivered from a communications service provider to the requesting authority. The 'handover interface' is implemented within systems or equipment (e.g., mediation devices) that receive and validate the interception request, and deliver to the requesting authority only the results of interception that fulfil the validated request.
	2. 'Handover interfaces' may be specified by international standards (including but not limited to ETSI TS 101 331, ETSI TS 101 671, 3GPP TS 33.108) or national equivalents.
	
	Note: 5D001.e. does not control "software" specially designed or modified for any of the following:
	    a. Billing purposes;
	    b. Network Quality of Service (QoS);
	    c. Quality of Experience (QoE);
	    d. Mediation devices; or
	    e. Mobile payment or banking use.

5E001.a	Reference added to 5D001.e.

Category 5 Part 2	New or Additional Entries/ Comments
5A002. N.B.	"Satellite navigation system" replaces Global Navigation Satellite Systems (GNSS)
5A002.a.	Entry amended to refer to secure "cryptographic activation"

5A002.a. *Tech Note* 2	2. For the purposes of 5A002.a., 'described security algorithm' means any of the following:
	  a. A "symmetric algorithm" employing a key length in excess of 56 bits, not including parity bits;
	  b. An "asymmetric algorithm" where the security of the algorithm is based on any of the following:
	    1. Factorization of integers in excess of 512 bits (e.g., RSA);
	    2. Computation of discrete logarithms in a multiplicative group of a finite field of size greater than 512 bits (e.g., Diffie-Hellman over Z/pZ); or
	3. Discrete logarithms in a group other than mentioned in paragraph b.2. in excess of 112 bits (e.g., Diffie-Hellman over an elliptic curve).

5A002.a. *Tech Note 2.c.*	c. An "asymmetric algorithm" where the security of the algorithm is based on any of the following: 1. Shortest vector or closest vector problems associated with lattices (e.g., NewHope, Frodo, NTRUEncrypt, Kyber, Titanium); 2. Finding isogenies between Supersingular elliptic curves (e.g., Supersingular Isogeny Key Encapsulation); or 3. Decoding random codes (e.g., McEliece, Niederreiter). Technical Note: An algorithm described by Technical Note 2.c. may be referred to as being post-quantum, quantum-safe or quantum-resistant.
5A002.a., *Note 2.f.*	Para. chapeaux and sub-para. 1 merged; sub-para. 2 deleted
5A002.a., *Note h.*	Entry amended to include gateways (added after switches)

5A002.a., *Note 2.j.*	j. Items specially designed for a 'connected civil industry application', meeting all of the following:
	1. Being any of the following:
	  a. A network-capable endpoint device meeting any of the following:
	    1. The "information security" functionality is limited to securing 'non-arbitrary data' or the tasks of "Operations, Administration or Maintenance" ("OAM"); or
	    2. The device is limited to a specific 'connected civil industry application'; or
	  b. Networking equipment meeting all of the following:
	    1. Being specially designed to communicate with the devices specified in paragraph j.1.a. above; and
	    2. The "information security" functionality is limited to supporting the 'connected civil industry application' of devices specified in paragraph j.1.a. above, or the tasks of "OAM" of this networking equipment or of other items specified in paragraph j. of this Note; and
	2. Where the "information security" functionality implements only published or commercial cryptographic standards, and the cryptographic functionality cannot easily be changed by the user.

5A002.b. & *Tech Note*	b. Being a 'cryptographic activation token'; c. Technical Note: A 'cryptographic activation token' is an item designed or modified for any of the following: 1. Converting, by means of "cryptographic activation", an item not specified in Category 5 – Part 2 into an item specified in 5A002.a. or 5D002.c.1., and not released by the Cryptography Note (Note 3 in Category 5 – Part 2); or 2. Enabling, by means of "cryptographic activation", additional functionality specified in 5A002.a. of an item already specified in Category 5 – Part 2.

5A004.b.	b. Items, not specified in 4A005 or 5A004.a., designed to perform all of the following:
	1. 'Extract raw data' from a computing or communications device; and
	2. Circumvent "authentication" or authorisation controls of the device, in order to perform the function described in 5A004.b.1.
	  Technical Note:
	  'Extract raw data' from a computing or communications device means to retrieve binary data from a storage medium (e.g., RAM, flash or hard disk) of the device without interpretation by the device's operating system or filesystem.
	  Note1: 5A004.b. does not control systems or equipment specially designed for the "development" or "production" of a computing or communications device.
	  Note: 5A004.b. does not include:
	    a. Debuggers, hypervisors;
	    b. Items limited to logical data extraction;
	    c. Data extraction items using chip-off or JTAG; or
	    d. d. Items specially designed and limited to jail-breaking or rooting.

5D002.a.3.	3. Equipment or "software", as follows:
	  a. Equipment specified in 5A004.a. or "software" specified in 5D002.c.3.a.;
	  b. b. Equipment specified in 5A004.b. or "software" specified in 5D002.c.3.b.

5D002.b.	b. "Software" having the characteristics of a 'cryptographic activation token' specified in 5A002.b.;
5E002.b.	b. "Technology" having the characteristics of a 'cryptographic activation token' specified in 5A002.b.

5D002.c.3.	3. Equipment, as follows:
	  a. Equipment specified in 5A004.a.;
	  b. Equipment specified in 5A004.b.
	    Note: 5D002.c.3.b. does not control "intrusion software".

5E002.a.	Note: 5E002.a. does not control "technology" for items specified in 5A004.b., 5D002.a.3.b. or 5D002.c.3.b.

Category 6	New or Additional Entries/ Comments
6A001.a.1.c.1.b. & *Tech Note*	Minor changes

6A001.a.2.a. *Tech Note 1 & 2*	Note: 6A001.a.2. also controls receiving equipment, whether or not related in normal application to separate active equipment, and specially designed components therefor.
6A001.a.2.a.6.	6. Designed for operation at depths exceeding 1 000 m and having a 'hydrophone sensitivity' better than -230 dB below 4 kHz;;
6A004.c.4.	Entry amended, per Kelvin added to the parameter
6A003.b.4.b. *Note 3.b.1.*	1.Having a minimum horizontal or vertical 'Instantaneous-Field-of-View (IFOV)' of at least 2 mrad (milliradians);
6A005 *Note 6*	Note 6: For the purposes of 6A005.a. and 6A005.b., 'single transverse mode' refers to "lasers" with a beam profile having an M^2-factor of less than 1,3, while 'multiple transverse mode' refers to "lasers" with a beam profile having an M^2-factor of 1,3 or higher.

6A005.a.6.a.	a. 'Single transverse mode' and output power exceeding 500 W; or
	   1. Average output power exceeding 1 000 W; or
	   2. Having all of the following:
	      a. Average output power exceeding 500 W; and
	      b. Spectral bandwidth less than 40 GHz; or

6A005.a.6.a.1. & 6A005.a.6.a.2.a.	Entries amended (average deleted)
6A005.a.6.b. *Tech Note*	Technical Note deleted
6A005.a.6.b.1.	1. 'Wall-plug efficiency' exceeding 18 % and output power exceeding 1 000 W;
6A005.a.6.b. *Note 2*	Sub-paras. a., f. and g. deleted; sub-para. e. parameter changed from 4 to 6 kW
6A008.i., *Note b.1.* & *Tech Note*	Definition 'instrumented range' changed from a global to a local definition in the chapeaux and in Note b.1. Technical Note: For the purposes of 6A008.i. 'instrumented range' is the specified unambiguous display range of a radar.
6A108	Radar systems and tracking systems and radomes, other than those specified in entry 6A008, as follows:
6A108.c.	c. Radomes designed to withstand a combined thermal shock greater than $4{,}184 \times 10^6$ J/m^2 accompanied by a peak over pressure of greater than 50 kPa, and usable in "missiles" for protecting against nuclear effects (e.g. electromagnetic pulse (EMP), X-rays, combined blast and thermal effects).
6B002	Masks and reticles, specially designed for optical sensors specified in 6A002.a.1.b. or 6A002.a.1.d.

Category 7	New or Additional Entries/ Comments
7A003. *Tech Note a.*, 7A005, 7A005.b 7D003.b.2, 7D005	"Satellite navigation system" replaces Global Navigation Satellite Systems (GNSS)
7A103.c. & *Tech Notes 1 & 2*	MTCR now use same acronym for "CEP" as WA; new Technical Note 2 for 'CEP'; existing Technical Note numbered 1 and renumbering of existing sub-paras. 1., 2. and 3. to a., b. and c. Technical Note: 2. In 7A103.c. 'CEP' (Circular Error Probable or Circle of Equal Probability) is a measure of accuracy, defined as the radius of the circle inside of which there is a 50 % probability of being located.
7A117 & *Tech Note*	Technical Note: In 7A117 'CEP' (Circular Error Probable or Circle of Equal Probability) is a measure of accuracy, defined as the radius of the circle centered at the target, at a specific range, in which 50 % of the payloads impact.

Category 8	New or Additional Entries/ Comments

8A001.c.	c. Unmanned submersible vehicles, as follows:
	   1. Unmanned submersible vehicles having any of the following:
	      a. Designed for deciding a course relative to any geographical reference without real-time human assistance;
	      b. Acoustic data or command link; or
	      c. Optical data or command link exceeding 1 000 m;

8A001.d.	Entry deleted and combined with revised 8A001c; now not used.

8A002.d.	d. Underwater vision systems having all of the following:
	   1. Specially designed or modified for remote operation with an underwater vehicle; and
	   2. Employing any of the following techniques to minimise the effects of back scatter:
	      a. Range-gated illuminators; or
	      b. Range-gated laser systems;

8B001	8B001 Water tunnels designed to have a background noise of less than 100 dB (reference 1 µPa, 1 Hz) within the frequency range exceeding 0 Hz but not exceeding 500 Hz and designed for measuring acoustic fields generated by a hydro-flow around propulsion system models.

Category 9	New or Additional Entries/ Comments
9A004	9A004 Space launch vehicles, "spacecraft", "spacecraft buses", "spacecraft payloads", "spacecraft" on-board systems or equipment, and terrestrial equipment, and air-launch platforms as follows:
9A004.g.	g. "Aircraft" specially designed or modified to be air-launch platforms for space launch vehicles.
9A004.h.	h. "Sub-orbital craft".
9A010.d. & *Tech Note*	Technical Note: For the purposes of 9A010.d., 'response time' is the time required to achieve 90 % of total rated thrust from start-up.
9A011 *Tech Note*	Technical Note: For the purposes of 9A011, 'combined cycle engines' combine two or more of the following types of engines: — Gas turbine engine (turbojet, turboprop and turbofan); — Ramjet or scramjet; — Rocket motor or engine (liquid/gel/solid-propellant and hybrid).
9A012 N.B.	New Nota Bene to reference control entry 9A004.h.
9A101.a.1., 2. & *Tech Notes*	Entries amended; new Technical Note 2 for clarification of specific fuel consumption; existing Technical Notes 2 and 3 renumbered 3 and 4 Technical Note: 2. Specific fuel consumption is determined at maximum continuous thrust for engine type un-installed at sea level static conditions using the ICAO standard atmosphere.
9A106.b.	Entry deleted
9A107	Text changed to 'motors' to align with MTCR.
9A108	Hybrid rocket propulsion systems added to chapeaux.
9A108.a.	a. Rocket motor cases and "insulation" components therefor, usable in subsystems specified in 9A007, 9A009, 9A107, or 9A109.a.;
9A108.b.	b. Rocket nozzles, usable in subsystems specified in 9A007, 9A009, 9A107or 9A109.a.;
9A111 & *Tech Note*	Technical Note: In 9A111 detonation engines utilize detonation to produce a rise in effective pressure across the combustion chamber. Examples of detonation engines include pulse detonation engines, rotating detonation engines or continuous wave detonation engines.
9B001	Manufacturing equipment, tooling or fixtures, as follows:
9B117	Chapeaux modified
9C110	Editorial change
9D005 N.B.	NB: For "software" for items listed in 9A004.d. that are incorporated into "spacecrafts payloads", see the appropriate Categories.
9E003.a.7.	Entry deleted

9E003.a.11. & *Tech Note*	Entry rewritten including sub-paras. a. and b., new local definition for 'fan blade' including a Technical Note
	
	11. 'Fan blades' having all of the following:
	   a. 20 % or more of the total volume being one or more closed cavities containing vacuum or gas only; and
	   b. One or more closed cavities having a volume of 5 cm 3 or larger;
	   Technical Note:
	   For the purposes of 9E003.a.11., a 'fan blade' is the aerofoil portion of the rotating stage or stages, which provide both compressor and bypass flow in a gas turbine engine.