

New Zealand Strategic Goods List (NZSGL) 2017

EXPLANATORY STATEMENT OF AMENDMENTS

Construct of the NZSGL

The NZSGL is comprised of listed goods, software and technology that are derived from the control lists developed by the multilateral non-proliferation and export control regimes of which New Zealand is a member.¹ It includes equipment, assemblies and components, associated test, inspection and production equipment, materials, chemicals, software and technology. It is divided into two Parts.

Part 1 covers military and related goods – those goods, software and technologies designed or adapted for use by the armed forces or goods that are inherently lethal. These goods include:

- Military Goods, that is, those goods, software or technology that are designed or adapted for military purposes including parts and accessories thereof; and
- Non-Military Lethal Goods, that is, equipment that is inherently lethal, incapacitating or destructive such as non-military firearms, non-military ammunition and commercial explosives and initiators.

Part 2 covers those goods that have a dual use. Dual-use goods comprise equipment, software and technologies developed to meet commercial needs but which may be used either as military components or for the development or production of military systems or weapons of mass destruction.

Part 2 is further subdivided into 10 categories:

- Category 0 – Nuclear Materials;
- Category 1 – Materials, Chemicals, Micro-organisms and Toxins;
- Category 2 – Materials Processing;
- Category 3 – Electronics;
- Category 4 – Computers;
- Category 5 – Telecommunications and Information Security;
- Category 6 – Sensors and Lasers;
- Category 7 – Navigation and Avionics;
- Category 8 – Marine; and
- Category 9 – Aerospace and Propulsion.

¹ New Zealand is a member of the Wassenaar Arrangement, the Missile Technology Control Regime, the Australia Group and the Nuclear Suppliers Group.

The amendments

There are 148 amendments to the NZSGL.² These amendments can be categorised as either new controls, modifications to existing controls, deletions of previously existing controls (decontrols), or clarifications.

Of these 148 amendments, 101 are changes which remove the requirement to obtain an approval prior to export (decontrols), and 43 of the amendments are either new controls or changes to existing controls that result in an expanded scope. The remaining 4 amendments are clarifications that do not involve a scope change. Most of these additional controls reflect changes that were made to the Nuclear Suppliers Group (NSG) list after that regime conducted a comprehensive list review and identified a range of new technologies relevant for the nuclear industry.

Analysis of the changes in the *New Zealand Strategic Goods List 2017*

The amendments do not substantially alter the nature or overall purpose of the NZSGL.

Overall, the amendments will have a limited impact on New Zealand exporters.

The amendments that result in effective changes to the NZSGL are discussed below. Minor editorial changes where the scope of the control has not changed are not discussed here.

Munitions List

ML1: Decontrol for “deactivated firearms”

The decontrol of firearms that maintain the appearance of a firearm and have all major parts either destroyed, permanently incapacitated or permanently immobilised such that they are incapable of being returned to original firing condition.

ML11.c: New control on satellites and spacecraft specially designed for military use.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related software or technology.

ML8c.5: Minor changes to the controls on energetic materials. However there is no actual impact as ML908 is a ‘catch-all’ for all energetic materials that are not listed in ML8.

Impact: No impact

ML10: Minor changes to the controls for accessories to military aircraft; airborne refuelling equipment, ground equipment and aircrew life support equipment. However there is no actual impact as MFAT already controls all equipment and accessories for military aircraft.

Impact: No impact

² This number does not include minor editorial or typographical changes

ML22.a: New Note 3 that decontrols technology for use of items listed ML901 to ML905 and re-aligns military technology controls.

Impact: Will remove the requirement for an approval

ML908: Decontrol of thermite welding chargers and associated igniters.

Impact: Will remove the requirement for an approval.

Category 0 – Nuclear Materials, Facilities and Equipment

0A001, 0B001-7, 0C005: Various amendments to items in these controls. However since New Zealand has no nuclear industry, these changes are unlikely to have an impact.

Impact: No impact

0C003: Amendment to the control for deuterium, heavy water and deuterated compounds. Only those materials for use in a nuclear reactor are now controlled, which is a significant change.

Impact: Will reduce the requirement for an approval

0C004: Amendment to the control on high-purity graphite. Only those materials for use in a nuclear reactor, and in quantities of higher the 1kg are controlled.

Impact: Will reduce the requirement for an approval

Category 1 – Materials, Chemicals, Micro-organisms and Toxins

1A002: Decontrol of composite structures and laminates for aircraft repair that are less than 1 m² in area or less than 2.5m by 14mm.

Impact: Will reduce the requirement for an approval

1A005: Decontrol of body armour that is only designed to provide protection from knife, spike, needle or blunt trauma.

Impact: Will reduce the requirement for an approval

1B001.b: Effective decontrol of tape-laying machines that operate with less than 5 axes.

Impact: Will reduce the requirement for an approval

1B227: deletion of controls on ammonia synthesis converters or ammonia synthesis units.

Impact: Will remove the requirement for an approval

1B228: Increase in the controls for hydrogen-cryogenic distillation columns. Those that have internal diameters of less than 1m and effective lengths of 4m and greater are now controlled

Impact: Will increase the requirement for an approval

1C001: Decontrol of materials specially designed for absorbing electromagnetic waves, or intrinsically conductive polymers, that are specially designed for laser marking or welding of polymers

Impact: Will reduce the requirement for an approval

1C001 Note: Decontrol of intrinsically conductive polymeric materials with a 'bulk electrical conductivity' exceeding 10,00 S/m that are in liquid form.

Impact: Will reduce the requirement for an approval

1C002.c.2: New control for certain metal alloy powders, and alloys made from those powders, which are made in a controlled atmosphere via a plasma atomisation process.

Impact: Will introduce the requirement for approval to be obtained before exporting these items.

1C008.a.3: Effective decontrol of aromatic polyimides with a glass transition temperature of 232°C or less.

Impact: Will reduce the requirement for an approval

1C008.b: Decontrol of thermoplastic liquid crystal copolymers.

Impact: Will remove the requirement for an approval.

1C008.f: Effective decontrol of Polybiphenylenethersulphone substances having a glass transition temperature of 290°C or less

Impact: Will reduce the requirement for an approval

1C111.a.2: Effective decontrol of metal powders that have greater than 10% of the total particles of sizes greater than 60 µm.

Impact: Will reduce the requirement for an approval

1C111.a.6: New control for 1,2-Dimethylaminoethylazide (DMAZ).
(CAS 86147-04-8)

Impact: Will introduce the requirement for approval to be obtained before exporting these items.

1C216: Modification to the control for maraging steel- the strength parameter has been lowered from 2050 MPa to 1950 MPa. This change will not result in more grades of maraging steel being controlled and is instead intended to address loopholes associated with the potential strength capability of maraging steel.

Impact: No impact.

1C236: Modification to the control on alpha-emitting radionuclides – only those radionuclides specified in the control are now controlled, instead of all those with a half-life greater than 10 days. The net result is the decontrolling of some radionuclides, such as 252-Californium.

Impact: Will reduce the requirement for an approval

1C241: New control of rhenium and its alloys in cylindrical form and with a mass greater than 20kg, and technology therefor (1E001 and 1E201)

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology.

1C350.66: New control for Diethylamine (CAS 109-89-7).

Impact: Will introduce the requirement for approval to be obtained before exporting these items.

1C351.a.40-42: New controls for the pathogens: Reconstructed 1918 influenza virus, Severe acute respiratory syndrome-related coronavirus (SARS-related coronavirus) and Suid herpesvirus 1.

Impact: Will introduce the requirement for approval to be obtained before exporting these items.

1C351.b: Decontrol of the rickettsiae: Bartonella quintana and Rickettsia prowasecki (Coxiella burnetii and Rickettsia prowazekii are now instead controlled in 1C351.c.19 and 1C351.c.20 respectively).

Impact: Will reduce the requirement for an approval

1C351.c: Additional bacteria controls – Clostridium baratii, Clostridium butyricum and Shiga toxin-producing Escherichia coli serogroups.

Impact: Will introduce the requirement for approval to be obtained before exporting these biological materials or supplying related technology

1E002.c.1.c.3: Decontrol of design and production technology for certain ceramic powders comprising platelets, whiskers or chopped fibres.

Impact: Will reduce the requirement for an approval.

1E002.d: Decontrol of aromatic polyamide fibre production technology.

Impact: Will reduce the requirement for an approval.

1E101: Decontrol of technology for the use of fibre and composite production equipment; and decontrol of technology for the use of materials designed for absorbing electromagnetic waves.

Impact: Will reduce the requirement for an approval.

1E201: Decontrol of technology for the use of:

- composite structures and laminates;
- certain metal alloys, metal alloy powders and certain fibrous and filamentary materials

Impact: Will reduce the requirement for an approval.

1E202 and 1E201: Decontrol of development and production and use technology for equipment designed to initiate charges and devices containing energetic materials.

Impact: Will reduce the requirement for an approval.

Category 2 – Materials Processing

2B001.a-c: Updating of the controls for certain machine tools for turning, milling and grinding – the parameter ‘positive accuracy’ has been replaced with unidirectional repeatability’, with equivalent values. In addition some grinding machines with five or more axes have been decontrolled.

Impact: Will reduce the requirement for an approval

2B006.b: Minor amendment to the control for linear variable differential transformer systems – no effective scope change.

Impact: No impact

2B206: Minor change to the controls of dimensional inspection machines.

Impact: Will reduce the requirement for an approval.

2B230: Minor change to the controls on pressure transducers capable of measuring absolute pressure and having a range of 0-13kPa. Those absolute pressure transducers with a sensing element of aluminium oxide or fully fluorinated hydrocarbon polymers are now controlled.

Impact: Will increase the requirement for an approval.

2B232: Expansion of the controls on high-velocity gun systems (including electromagnetic, gas and coil). Systems that can accelerate a projectile to 1.5 km/s or

higher are now controlled. These systems have utility in nuclear weapon development activities.

Impact: Will increase the requirement for approval to be obtained before exporting these items or supplying related technology.

2B233: New control on bellows-sealed scroll-type compressors and bellows-sealed scroll-type vacuum pumps. These items have utility in nuclear programs.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology.

2B352.b: New controls on fermenter cultivation chambers and process control units. The fermenters themselves are already controlled.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology.

2B352.e: Expansion of the controls on certain high-capacity freeze drying equipment. Those that undertake sterilisation with gas or a vapour are now controlled.

Impact: Will introduce the requirement for approval to be obtained before exporting these items.

2B352.f.2: Updating and minor reduction in scope of the controls for biocontainment chambers, isolators and biological safety cabinets.

Impact: Will reduce the requirement for an approval.

2B352.g: Minor expansion in the scope of the controls for aerosol challenge testing equipment. Certain nose-only exposure apparatus and closed animal restraint tubes designed for use with such apparatus are now controlled.

Impact: Will introduce the requirement for approval to be obtained before exporting these items.

2B352.h: New control on spray-drying equipment capable of drying toxins or pathogenic organisms

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology.

2D001: Additional controls for software for the development or production of various special materials and materials processing equipment.

Impact: Will increase the requirement for approval to be obtained before exporting this software or supplying related technology.

2D001: Decontrol of software for the use of ball bearings and solid roller bearings with rolling elements made of Monel or beryllium.

Impact: Will reduce the requirement for an approval.

2D001: Decontrol of software for the use of numerically-controlled optical finishing machines.

Impact: Will reduce the requirement for an approval.

2D002: Decontrol of machine tool software that is the minimum necessary for operation.

Impact: Will reduce the requirement for an approval.

2D003: New control for machine tool software that converts optical design, work piece measurements and material removal functions into numerical control commands.

Impact: Will introduce the requirement for approval to be obtained before exporting this software or supplying related technology.

2E101 and 2E201: Decontrol of technology for the use of:

- hot isostatic presses
- dimensional inspection and measuring systems
- certain robots
- certain machine tool assemblies and units: linear and rotary position feedback units, compound rotary tables and tilting spindles

Impact: Will reduce the requirement for an approval.

Category 3 – Electronics

3A001.a.5.b.2: Effective decontrol of digital-to-analogue converters with a resolution of 12 bit or more having an adjusted update rate of 1250 (or less) MSPS (million samples per second).

Impact: Will reduce the requirement for an approval

3A001.a.7: Effective decontrol of field programmable gate arrays (FPGAs) with either a maximum number of single-ended digital input/outputs less than or equal to 700, or an aggregate one-way peak serial transceiver data rate less than 500 Gb/s.

Impact: Will reduce the requirement for an approval

3A001.a.13: New control on high performance direct digital synthesizer integrated circuits and technology therefor.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology

3A001.b.7: Updating and effective decontrol of certain converters and harmonic mixers that are designed to extend the frequency range of signal analysers, signal generators, network analysers and microwave test receivers.

Impact: Will reduce the requirement for an approval.

3A001.b.2, 3A001.b.3, 3A001.b.4 and 5E001.d: Updating of the controls on microwave monolithic integrated circuit (MMIC) power amplifiers, transistors, solid state amplifiers and associated technology. The new control text introduces relaxation of the control and more precise definition of the frequency bands of military significance.

Impact: Will reduce the requirement for an approval

3A001.b.10: Effective decontrol of certain microwave oscillators and oscillator assemblies. Those that operate only above 10kHz are no longer controlled.

Impact: Will reduce the requirement for an approval.

3A001.b.11.f and .g: Effective decontrol of some frequency synthesised electronic assemblies operating at frequencies between 75 - 90GHz. Those that have a frequency switching time less than 1 ms for frequency changes less than 2.2GHz are no longer controlled.

Impact: Will reduce the requirement for an approval.

3A002.a.1-4: Decontrol of the following recording equipment: analogue instrumentation magnetic tape recorders, digital video magnetic tape recorders, digital instrumentation magnetic tape data recorders and equipment designed to convert digital magnetic tape recorders for use as digital instrumentation data recorders.

Impact: Will reduce the requirement for an approval

3A002.a.7: New control for real-time oscilloscopes with a bandwidth of 60GHz or greater per channel

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology

3A002.c.1-4: Minor change to the controls on radio-frequency signal analysers. The new control text introduces relaxation of the control and more precise definition of the frequency bands of military significance.

Impact: Will reduce the requirement for an approval

3A002.c.5: New control on radio frequency signal analysers having a frequency mask trigger.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology

3A002.d: Updating of the controls for signal generators, resulting in some effective decontrols. These decontrols are a function of both the frequency range and frequency switching times.

Impact: Will reduce the requirement for an approval.

3A002.e: Updating of the controls for network analysers, resulting in some effective decontrols, primarily some that operate in the 43.5 - 75GHz frequency range.

Impact: Will reduce the requirement for an approval.

3A002.f: Updating of the control for microwave test receivers. Only those operating at greater than 110GHz are now controlled. The new control text introduces relaxation of the control and more precise definition of the frequency bands of military significance.

Impact: Will reduce the requirement for an approval.

3A225: Minor expansion in the controls on frequency changers, and associated software. Although those frequency changers with a frequency control higher than 0.1 % are no longer controlled, there is no longer an upper frequency requirement- the control is now potentially applicable to frequency changers that operate at or above 600 Hz. These items are considered critical for nuclear enrichment facilities.

Impact: Will increase the requirement for approval to be obtained before exporting these items or supplying related technology.

3A229.b: Minor change to the control for modular electrical pulse generators.

Impact: Will reduce the requirement for an approval.

3A229.c: New control for micro-firing high-current pulse units. Those units with a voltage of 1 kV or above and a capacitance of 100 nF or higher are now controlled. These units have utility in nuclear weapons development.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology.

3A231: New controls for neutron generator systems utilising electrostatic acceleration to induce deuterium-deuterium nuclear reactions.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology.

3A233: Minor amendment to the control for electron bombardment mass spectrometers. Limited scope change.

Impact: Limited impact.

3A234: New control for high explosive containment vessels designed to fully contain an explosion equivalent to 2 kg of TNT or greater, and capable of providing diagnostic or measurement information. These items have utility in nuclear weapons development.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology.

3A235: New control for striplines and technology therefor that can provide a low inductance path to detonators. These items have utility in nuclear weapons development.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology.

3B001.a.2: Minor change in the control for metal organic chemical vapour deposition reactors designed for semiconductor epitaxial growth. Very limited scope change.

Impact: No impact

3B001.b: Updating of the control for equipment designed for ion implantation. The parameters are updated to reflect the current state of the art.

Impact: Will reduce the requirement for an approval

3B001.d: Deletion of the control for plasma enhanced chemical vapour deposition equipment.

Impact: Will remove the requirement for an approval

3B001.f: Updating and lowering the scope of the controls for semiconductor lithography equipment. Those using a light source with a wavelength higher than 193nm, and those not capable of producing a pattern with a minimum resolvable feature size of 45nm or less, are no longer controlled.

Impact: Will reduce the requirement for an approval.

3B001.h: Updating of the control for multi-layer phase-shift masks. Only those masks that are either made from glass that has a birefringence of 7 nm/cm, or are designed for lithography equipment with a light source operating at less than 245 nm are now controlled.

Impact: Will reduce the requirement for an approval

3C002: Updating of the control for resist materials and substrates coated with resists to better reflect the current state of the art.

Impact: Will reduce the requirement for an approval

3D201, 3D202, 3D203 and 3E001: New controls for software for frequency changers, and the technology for that software. Software that enables the use of controlled frequency changers is now controlled, as is software that allows a non-controlled frequency change to be modified into a controlled frequency changer.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology

3E101 and 3E201: Decontrol of technology for the use of certain electronic items, including radiation-hardened electronics and those that operate at large temperature extremes. Specifically these decontrols apply to items listed in 3A001.a.1 and .2, 3A001.e.2 and .3, and 3A001.g.

Impact: Will reduce the requirement for an approval.

Category 4 – Computers

4A003.a: Deletion of the control for computers designed or modified for fault tolerance.

Impact: Will reduce the requirement for an approval

4A003.b: Updating of the control for supercomputers. Only those computers with an adjusted peak performance exceeding 8 Weighted TeraFLOPS (WT) are now controlled.

Impact: Will reduce the requirement for an approval

4A003.g: Updating of the control for supercomputer interconnection equipment. Only that equipment that enables data rates exceeding 2 Gbyte/s is now controlled.

Impact: Will reduce the requirement for an approval

4A005, 4D004 and 4E001.c: New control for intrusion software, and systems, equipment and components for its generation, operation, delivery or communication.

Impact: Will introduce the requirement for an approval.

4D001.a: Deletion of the controls for software for the use of controlled computers

Impact: Will remove the requirement for an approval

4D001.b.1 and 4E001.b.1: Updating and lowering the scope of the controls for software and technology for the development and production of digital computers. Development and production software and technology is now only controlled for digital computers having an adjusted peak performance above 1.0 Weighted TeraFLOPS.

Impact: Will reduce the requirement for an approval.

4D002: Decontrol of all software specially designed or modified to *support* Category 4 technology.

Impact: Will remove the requirement for an approval.

Category 5 – Telecommunications and Information Security

5A001.f: New control for mobile telecommunications interception equipment, and radio frequency monitoring equipment.

Impact: Will increase the requirement for approval to be obtained before exporting these items or supplying related software or technology.

5A001.h: New control for equipment that enables radio communications during the operation of IED-jamming equipment.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related software or technology.

5A001.j: New control for IP network communications surveillance systems or equipment, and specially designed components thereof.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related software or technology.

5A002.a.2: The control for equipment designed or modified to perform cryptanalytic functions now has some explanatory notes:

- ‘Cryptanalytic functions’ are stated as functions designed to defeat cryptographic mechanisms in order to derive confidential variables or sensitive data, including clear text, passwords or cryptographic keys.
- Systems or equipment designed or modified to perform cryptanalytic functions by means of reverse engineering are stated as being captured by 5A002.a.2.

Impact: None - clarification only.

All of Category 5 part 2 (Information Security): Decontrol of equipment and software employing encryption that has all the following: is generally available to the public; the cryptographic functionality cannot be easily changed by the user, designed for installation by the user without support from the supplier; and is not designed for modified to specified customer specifications.

Impact: Will reduce the requirement for an approval

5A002 Note 1: Decontrol of routers switches and relays where the information security functionality is limited to the task of operations, administration or maintenance (OAM) implementing only published or commercial cryptographic standards.

Impact: Will remove the requirement for an approval.

5A002 Note K: Decontrol of mobile telecommunications Radio Access Network (RAN) equipment designed for civil use having an RF output power limited to 011W.

Impact: Will remove the requirement for an approval

5A002 Note m: Decontrol of general purpose computing equipment and servers where the information security functionality meets all of the following:

- uses only published or commercial cryptographic standards, and
- is either a CPU or integral to an operating system that is not otherwise controlled, or is limited to OAM of the equipment

Impact: Will remove the requirement for an approval.

5B001.b.5 and 5E001.c.5: Decontrol of equipment and technology for the development of equipment employing common channel signalling.

Impact: Will remove the requirement for an approval.

5D001.b: Decontrol of software designed or modified to support all Category 5 Part 1 technology except that to support missile telemetry and telecontrol equipment.

Impact: Will reduce the requirement for an approval.

5D002.c: For software having the characteristics or performing or simulating the functions of controlled encryption equipment, or software used to certify controlled software, there is now a decontrol note that exempts from control software limited to the tasks of OAM, implementing only published or commercial cryptographic standards.

Impact: Will reduce the requirement for an approval.

5D002.d and 5E002.b: A clarification on the controls for software and technology that enable an otherwise not controlled item to achieve the controlled performance levels. This enabling is clarified as being via “cryptographic activation”.

Impact: None- clarification only.

5E001.b.4: Decontrol of spread spectrum technology for civil cellular radio communications systems, and fixed or mobile satellite earth stations for commercial civil telecommunications.

Impact: Will remove the requirement for an approval

5E001.c.1: Effective decontrol of technology for the development and production of telecommunications equipment with a total digital transfer rate of 560 Gbit/s or less.

Impact: Will reduce the requirement for an approval.

5E001.c.5: Decontrol of technology for the development of equipment employing common channel signalling operating in a non-associated mode of operation.

Impact: Will reduce the requirement for an approval

Category 6 – Sensors and Lasers

6A001.a.1.a.2.a: Clarification of the control 3D sonar systems- when determining the sounding rate, the maximum in either direction is to be used. This parameter also now has the correct units (m/s).

Impact: None - clarification only.

6A001.a.1.a.2.b: New control on underwater survey equipment designed to take measurements at greater than 20° (from the vertical), having compensation for sensor motion, and either operating below 350 kHz or having the ability to measure seabed topography at a range exceeding 200 m from the sensor.

Impact: Will increase the requirement for approval to be obtained before exporting these items or supplying related technology

6A001.a.1.a.3: Clarification of the control for marine side scan sonar and synthetic aperture sonar system. The control now explicitly states that specially designed transmitting and receiving acoustic arrays are also captured.

Impact: None - clarification only.

6A001.a.1.c: Updating and lowering the scope of control for acoustic projectors operating below 10 kHz.

Impact: Will reduce the requirement for an approval.

6A001.a.1.e: Increase in the scope of the control for active individual sonars that are specially designed to detect, locate and automatically classify swimmers and divers. The component acoustic arrays for those sonars are now controlled.

Impact: Will increase the requirement for approval to be obtained before exporting these items or supplying related technology

6A001.a.2.a.3.d-e: New controls passive acoustic systems with sensing elements made from piezoelectric single crystals of lead-magnesium-niobate/lead-titanate or Lead-indium-niobate/lead-magnesium niobate/lead-titanate.

Impact: Will increase the requirement for approval to be obtained before exporting these items or supplying related technology

6A001.a.2.b.8, 6A001.a.2.e and 6A001.a.2.g: New controls for high performance accelerometer-based hydro-acoustic sensors, and towed acoustic hydrophone arrays and bottom/bay cable systems that incorporate those sensors.

Impact: Will increase the requirement for approval to be obtained before exporting these items or supplying related software or technology.

6A003.a.3: Updating and lowering the scope of control for electronic streak cameras—only those with a temporal resolution better than 50 ns are now controlled.

Impact: Will reduce the requirement for an approval.

6A003.b.4.b: Decontrol of thermal cameras configured for use only in civilian passenger vehicles with a gross weight less than 4.5 tonnes, which are solely to assist the driver in the safe operation of the vehicle. Thermal cameras configured for use only in passenger and vehicle ferries with a length of 65 m or greater are also decontrolled.

Impact: Will reduce the requirement for an approval.

6A004: Updating and effectively lowering of the scope of control for deformable mirrors, mirrors designed for beam steering mirror stages and steering, tracking, stabilisation and resonator alignment equipment. The controls now better focus on items with utility in military adaptive optics systems.

Impact: Will reduce the requirement for an approval.

6A005.a and 6A005.b: Effective decontrol of non-tunable continuous-wave and pulsed lasers operating in the wavelength range 510-520nm. Those lasers operating below 50W are no longer controlled

Impact: Will reduce the requirement for an approval

6A005.a.6.a: Decontrol of lasers operating between 975-1150 nm with single transverse mode output, and having a power output of 200 W or below.

Impact: Will reduce the requirement for an approval

6A005.a.6 Note 2.a-i: Decontrol of various multiple-mode industrial lasers. The decontrols on these lasers are based on output power and Beam Parameter Product (BPP).

Impact: Will reduce the requirement for an approval

6A005.b.4-6: Effective decontrol of high-power lasers operating between 540-975nm. Lasers meeting the new specifications are no longer controlled.

Impact: Will reduce the requirement for an approval

6A005.d.2-4 and 6A005.e: Re-insertion of the controls on cooled mirrors for high power lasers, and the following very high powered lasers: carbon monoxide, carbon dioxide, excimer, chemical, Nd:glass, and specialised laser components. These

controls have been in the DSGL for many years, but were unintentionally omitted from the DSGL Amendment 2012

Impact: None. Editorial correction only

6A005.e.3: New controls for certain fibre laser components: multimode to multimode fused tapered fibre combiners, single-mode to multimode fused tapered fibre combiners and multi-layer dielectric gratings.

Impact: Will introduce the requirement for approval to be obtained before exporting these items.

6A008.k.2 Note: Decontrol of two dimensional marine radar and vessel traffic service radar. Those marine radars meeting the specifications in the Note are no longer controlled.

Impact: Will reduce the requirement for an approval

6A008.1 Note and 6A008.1.1 Note: Decontrol radar subsystems for ‘vessel traffic services’, and those that have automatic target tracking that is limited to ‘conflict alert’.

Impact: Will reduce the requirement for an approval

6A203.a-c: Updating of the controls on very high speed cameras (streak, framing, solid state or electron tube) that have utility in nuclear weapons testing.

Impact: Will increase the requirement for approval to be obtained before exporting these items or supplying related technology

6A204: New control for radiation-hardened TV cameras and lenses therefore.

Impact: Will increase the requirement for approval to be obtained before exporting these items or supplying related technology

6A205.g: New control for pulse carbon monoxide lasers with a pulse width of less than 200 ns, power greater than 200 W and operating between 5000-6000 nm.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology

6A226.a: Change in the control of pressure gauges that can measure above 10 GPa and have nuclear utility. Gauges are no longer required to be made of Manganin (a copper alloy with manganese and nickel) to be controlled. Additional gauges that are of interest are those made from ytterbium and polyvinylidene difluoride.

Impact: Will increase the requirement for approval to be obtained before exporting these items or supplying related technology

6C004: Updating of the controls for electro-optic and non-linear optical materials.

Impact: Will reduce the requirement for an approval

6C005: New control for certain rare-earth-metal doped double-clad optical fibres for use in fibre lasers operating at either 975-1150 nm, or above 1530 nm.

Impact: Will introduce the requirement for approval to be obtained before exporting these items.

6C005.b: Decontrol of synthetic crystalline alexandrite that has utility in lasers.

Impact: Will remove the requirement for an approval

6D003.d: New control for software specially designed to maintain the alignment and phasing of segmented mirror systems, that consist of mirror segments having a diameter or major axis length equal to or larger than 1 m.

Impact: Will introduce the requirement for approval to be obtained before exporting these items.

6D201, 6D202 and 6E002: New control for software or encryption keys for very high speed cameras, and production technology therefor, that is either for controlled very high speed cameras, or that that enables a non-controlled very high speed camera to meet the control threshold.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology

6E101 and 6E201: Effective decontrol of technology for the use of:

- thermal sensors, image intensifier tubes, monospectral imaging sensors, multispectral imaging sensors
- cameras containing the all of the above sensors
- gravity meters and gravity gradiometers
- radar systems
- certain high-powered lasers (those captured in 6A005.a.2., 6A005.b.2., 6A005.b.3., 6A005.b.4., 6A005.b.6., 6A005.c.2., 6A005.d.3.c., 6A005.d.4.c)

Impact: Will reduce the requirement for an approval.

Category 7 – Navigation and Avionics

7A001.a.2: 7A001.a.2: Updating of the controls for linear accelerometers that can function at acceleration levels above 15g. Only those accelerometers that have a bias repeatability of less than 1250 micro g and a scale factor repeatability of less than 1250 ppm (both over a period of one year) are now controlled.

Impact: Will reduce the requirement for an approval. The new control metrics exclude some accelerometers with no military utility.

7A003: Effective decontrol on inertial measurement equipment, primarily those that derive their high accuracy from positional reference aids (such as GPS) instead of inertial components.

Impact: Will reduce the requirement for an approval. The new control metrics exclude some accelerometers with no military utility.

7A004: Change in the control for navigation equipment that tracks celestial bodies. This equipment is now referred to as 'star trackers' and the control applies to those with an azimuth accuracy of equal to or less than 20 seconds of arc. The control now includes the components: optical heads or baffles and data processing units.

Impact: Will reduce the requirement for an approval.

7D003.c: Decontrol of source code for integrated avionics/mission systems.

Impact: Will reduce the requirement for an approval.

7D004 and 7E004: Updating of the controls for flight control system software and technology to reflect the current state of the art. Includes the decontrol of control law compensation development technology for sensor location or dynamic airframe loads, and the decontrol of development technology for full authority digital flight control or multi-sensor mission management systems.

Impact: Will reduce the requirement for an approval.

7D005 and 7E001: New control on software designed to decrypt Global Navigation Satellite Systems (GNSS) ranging code, and development software therefor.

Impact: New requirement for an approval

7E004.d.7 and .8: New control for technology for deriving the functional requirements of certain high performance fly-by-wire systems.

Impact: Will introduce the requirement for approval to be obtained before exporting these items.

7E101: Effective decontrol of technology for the use of:

- accelerometers
- gyroscopes
- inertial navigation systems
- star trackers
- global navigation satellite systems
- airborne altimeters
- production, test, calibration or alignment equipment for the above items
- equipment specially designed to characterise mirrors for ring laser gyroscopes

Impact: Will reduce the requirement for an approval.

Category 8 – Marine

8A001 and 8A002: Decontrol of:

- surface-effect vehicles
- hydrofoil vessels
- small waterplane area vessels
- skirts, seals and fingers for the above vessels
- lift fans, fully submerged subcavitating or supercavitating hydrofoils, active control systems and propellers for the above vessels

Impact: Will remove the requirement for an approval. However technology for the development of these vessels is now controlled in 8E002.

8A002: Re-insertion of the controls on diver deterrent acoustic systems. This control has existed for several years but was unintentionally omitted from the DSGL Amendment 2012.

Impact: None. Editorial correction only.

8E002: New controls for development and production technology for:

- surface-effect vehicles (fully skirted) with a maximum, fully loaded design speed above 30 knots in a significant wave height of 1.25 m or more, a cushion pressure exceed 2830 Pa and a light-ship-to-full-load displacement ratio of less than 0.70.
- surface-effect vehicles with a maximum fully loaded design speed exceeding 40 knots in a significant wave height of 3.25 m or more
- Hydrofoil vessels with active systems for automatically controlling foil systems, with a maximum design speed, fully loaded, of 40 knots or more in a significant wave height of 3.25 m or more
- Small waterplane area vessels with either a full load displacement exceeding 500 tonnes with a maximum design speed, fully loaded, exceeding 35 knots in a significant wave height of 3.25 m or more, or a full load displacement exceeding 1,500 tonnes with a maximum design speed, fully loaded, exceeding 25 knots in a significant wave height of 4 m or more

Impact: Will introduce the requirement for approval to be obtained before exporting these items.

Category 9 – Aerospace and Propulsion

9A001 Note 2: Decontrol of gas turbine engine Auxiliary Power Units (APUs) that have been approved by a civil aviation authority in a Wassenaar Arrangement participating State.

Impact: Will remove the requirement for an approval

9A004 and 9D005: New control for spacecraft/satellite systems for command and telemetry handling, payload data handling and attitude and orbit control, certain payloads and ground-based telemetry and telecommand equipment and simulators, and software specially designed or modified for the operation of these items.

Impact: Will introduce the requirement for approval to be obtained before exporting these items.

9A009 and 9A109: Correction of the controls on hybrid rocket motors. The control references and control text for these two controls on hybrid rocket motors were incorrect in the DSGL Amendment 2012 and have been replaced to what they were in the 2011 List.

Impact: None. Editorial correction only.

9A012: Lowering the scope of control for UAVs. The controls now only apply to UAVs that have an endurance of 1 hour or more, or those that have an endurance of 30 minutes or more but can have stable take-off and flight in wind gust of 25 knots or more. In addition, remote-controlling equipment and autopilots are now decontrolled.

Impact: Will reduce the requirement for an approval.

9A012 Note: Decontrol of unmanned aerial vehicles that are assessed as model aircraft. Consultation with MFAT will be required to make this assessment.

Impact: No estimated impact.

9A121: New control for umbilical and inter-stage electrical connectors usable in missiles.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology

9B001 and 9D004.c: New control for directional-solidification or single-crystal additive manufacturing equipment (3D-printing equipment) and specially designed control software.

Impact: Will introduce the requirement for approval to be obtained before exporting these items or supplying related technology

9B105: Decontrol of aerodynamic test facilities (wind tunnels) that operate at speeds of Mach 3 or less, and have a test cross section size of 250 mm or less.

Impact: Will reduce the requirement for an approval.

9D004.d: Decontrol of software for the use of active compensating systems for rotor blade tip clearance control.

Impact: Will reduce the requirement for an approval.

9E003.a.2: Updating of the technology controls for gas turbine engine combustors to better reflect the current state of the art.

Impact: Will reduce the requirement for an approval

9E003.a.3.c: Decrease in the scope of the controls for development or production technology for gas turbine engine components made from composite materials. This control now only applies to stators, vanes, blades, tip seals, rotating blisks, rotating blisks and splitter ducts.

Impact: Will reduce the requirement for an approval.

9E003.a.4: Effective decontrol of development or production technology for certain uncooled turbine components. The controls now only apply to technology for blades, vanes and tip shrouds, and only if they are designed to operate at a gas path temperature of 1100 degrees Celsius or more.

Impact: Will reduce the requirement for an approval.

9E003.a.5: Updating of the technology controls for gas turbine engine cooled turbine blades, vanes and tip-shrouds to better reflect the current state of the art.

Impact: Will reduce the requirement for an approval

9E003.c: Updating of the technology controls for the manufacturing of cooling holes in gas turbine engine components to better reflect the current state of the art.

Impact: Will reduce the requirement for an approval

9E003.j: New control for development technology for wing-folding systems for fixed-wing aircraft powered by gas turbine engines.

Impact: Will introduce the requirement for approval to be obtained before exporting these items.

Sensitive List

The Sensitive List is made up of items in Categories 1-9 that are considered more sensitive.

2D001: Effective de-listing of some machine tool software.

2E001 and 2E002: Effective decontrol of some machine tool technology.

3B001.a.2: De-listing of metal organic chemical vapour deposition reactors.

3D001 and 3E001: De-listing of software and technology for the development or production of controlled electronics production equipment.

4D001 and 4E001: Effective de-listing of some software and technology for the development and production of controlled computers.

6A008.1.3: De-listing of controlled radar systems.

7D003.c: De-listing of source code for integrated avionics/mission systems.

7D003: De-listing of source code for some flight control systems.

Very Sensitive List

The Very Sensitive List is made up of items in Categories 0-9 that are considered very sensitive.

6A008.1.3: De-listing of controlled radar systems.