

## 1986 No. 540

## CUSTOMS AND EXCISE

**The Export of Goods (Control) (Amendment No. 5) Order 1986**

*Made* - - - 3rd March 1986

*Coming into Operation* 24th March 1986

The Secretary of State, in exercise of powers conferred by section 1 of the Import, Export and Customs Powers (Defence) Act 1939(a) and now vested in him(b) and of all other powers enabling him in that behalf, hereby makes the following Order:

1. This Order may be cited as the Export of Goods (Control) (Amendment No. 5) Order 1986 and shall come into operation on 24th March 1986.

2. The Export of Goods (Control) Order 1985(c) shall be further amended as follows:

(a) after Article 2(ix) there shall be added the following:—

“(x) scheduled goods indicated by the letters “E(S)” are prohibited to be exported to any destination except that when in relation to such goods the provisions of Regulation (EEC) 223/77, as amended, relating to the use of Community transit documents requiring anything to be done at or before the time of exportation have been complied with, the goods may be exported to a destination in another Member State, other than Spain.”;

(b) in Group A of Part I of Schedule 1, in the entries relating to Tariff Headings No. ex 26.03, Ash and residues containing copper, and No. ex 74.01, Copper waste and scrap, for the letter “T” there shall be substituted the letters “E(S)”;

(c) in Group 3D of Part II of Schedule 1—

(i) in entry IL 1305 (Metal rolling mills), “IL 1305 (*Cont.*)” shall be substituted for “IL 1306 (*Cont.*)”;

(ii) after entry IL 1391 (Robots, robot controllers and robot end-effectors), there shall be inserted the following additional entry:

“IL 1399 Software for automatically controlled industrial systems to produce assemblies or discrete parts, (except software in

(a) 1939 c.69.

(b) See S.I. 1970/1537.

(c) S.I. 1985/849, amended by S.I. 1985/1085, 1293 and 1294, 1986/82.

machine executable form for industrial sectors other than nuclear, aerospace, shipbuilding, heavy vehicles, machine building, microelectronics and electronics), possessing all of the following characteristics: ..... A

(1) Specially designed for automatically controlled industrial systems which include at least eight pieces of any combination of items of the following equipment:

- (a) a machine tool or dimensional inspection machine specified in the entries in Group 3 relating to machine tools and numerical control systems and machine tools for generating optical quality surfaces;
- (b) a robot specified in the entry in Group 3D relating thereto;
- (c) a digitally-controlled spin-forming or flow-forming machine specified in the entry in Group 3A relating thereto;
- (d) digitally-controlled equipment specified in the entries in Group 3A relating to equipment, tools, dies, moulds, fixtures and gauges for the manufacture or inspection of aircraft, aircraft manufactures, aircraft engines, gas turbine blades or vanes and gear making machines;
- (e) a digitally-controlled electric arc device specified in the entry in Group 3C relating to plasma arc equipment;
- (f) digitally-controlled equipment specified in the entries in Group 3D relating to equipment for the manufacture or testing of printed circuit boards, electronic components and materials;
- (g) digitally-controlled equipment specified in the entry in Group 3D relating to equipment for the production of fibrous and filamentary materials;
- (h) digitally-controlled electronic equipment specified in the entry in Group 3F relating to electronic measuring, calibrating, counting and testing equipment;
- (i) a digitally-controlled measuring system as specified in the entry in Group 3F relating to precision linear and angular measuring systems;

(2) Capable of integrating in a hierarchical manner, while having access to data which may be stored outside the supervisory digital computer, the manufacturing process with (i) design functions or (ii) planning and scheduling functions; and

(3) Automatically generating or verifying the manufacturing data and instructions, including selection of equipment and sequences of manufacturing operations for the manufacturing processes from design and manufacturing data, or automatically reconfiguring the automatically controlled industrial system through reselecting equipment and sequences of manufacturing operation by real-time processing of data pertaining to anticipated but unscheduled events (except software which only

provides rescheduling of functionally identical equipment within flexible manufacturing units using prestored part programmes and a prestored strategy for the distribution of the part programmes).

In this entry—

“automatically controlled industrial system” is a combination of one or more flexible manufacturing units and a supervisory digital computer for coordination of the independent sequences of computer instructions to, from and within the flexible manufacturing units;

“flexible manufacturing unit” is an entity which consists of a combination of a digital computer including its own main storage and its own related equipment and at least one of the machines specified in head (1) above of this entry.

(See also the entry in Group 4 relating to technology for the design of automatically controlled industrial systems).”;

(d) in Group 3E of Part II of Schedule 1—

- (i) in entry IL 1416 (Ships, surface-effect vehicles, water-screw propellers, and specially designed components), opposite head (5)(b)(iv), there shall be inserted the indicating letters “S,I”;
- (ii) after head (5B) of the same entry, there shall be inserted the following additional head:  
“(5C) Small waterplane area twin hull (SWATH) vessels having underwater hulls whose cross-sectional area varies along the longitudinal axis between points two major diameters from the bow and two major diameters from the stern ..... A”;
- (iii) in head 6 of the same entry, for “(1) to (5A)” there shall be substituted “(1) to 5(C)”;
- (iv) in head 6(c) of the same entry, after the words “hydrofoil vessels”, there shall be inserted the words “, SWATH vessels”;
- (v) in head 6(e) of the same entry, after the words “hydrofoil vessels”, there shall be inserted the words “, SWATH vessels”;
- (vi) in head 6(i) of the same entry, after the words “hydrofoil vessels”, there shall be inserted the words “, SWATH vessels”;
- (vii) after head 6(l) of the same entry, there shall be inserted the following additional sub-head:  
“(m) underwater hulls and struts for SWATH vessels ..... A”;
- (viii) after entry IL 1416, there shall be inserted the following additional entry:—

“IL 1417 Submersible systems, including those incorporated in a submersible vehicle, the following:—

(1) Automatically-controlled atmosphere-regeneration systems specially designed for submersible vehicles which, in a single chemical-reaction cycle, ensure carbon dioxide removal and oxygen renewal ..... A

(2) Systems specially designed for the automated control of the motion of a submersible vehicle using navigation data and having closed-loop servo-control(s) having any of the following characteristics:

- (a) capable of moving the vehicle to within ten metres of a predetermined point in the water column ..... A
- (b) capable of maintaining the position of the vehicle within ten metres of a predetermined point in the water column; or ..... A
- (c) capable of maintaining the position of the vehicle within ten metres while following a cable on or under the sea bed ..... A

(3) Underwater vision systems, the following:—

- (a) television systems (consisting of camera, lights, monitor and signal transmission equipment) specially designed for remote operation with a submersible vehicle, with a limiting resolution, when measured in air, greater than 500 lines using IEEE standard 208/1960 or any equivalent standard ..... A

In this sub-head—

“limiting resolution” is a measure of resolution expressed in terms of the maximum number of lines per picture height discriminated on a test chart.

- (b) systems specially designed for remote operation with a submersible vehicle employing techniques to minimize the effects of backscatter, such as range-gated illuminators ..... A

(4) Remotely controlled articulated manipulators specially designed for use with submersible vehicles and having any of the following characteristics:

- (a) systems which control the manipulator using information from sensors which measure force or torque applied to an external object, distance from an external object, or tactile sense between the manipulator and an external object ..... A
- (b) controlled by proportional master-slave techniques or by using a dedicated stored-programme computer; or ..... A
- (c) capable of exerting a force of 250 Newtons or more or a torque of 250 Newton-metres or more and using titanium based alloys or fibrous and filamentary composite materials in their structural members ..... A

(Note also the entry in Group 3D relating to robots).”;

- (ix) for entry IL 1418 (Deep submergence vehicles, and equipment, components and materials therefor), there shall be substituted the following entry:

“IL 1418 Deep submergence vehicles, specially designed associated systems, equipment, components and materials therefor, the following:—

(1) Deep submergence vehicles, whether or not for operation manned or unmanned, tethered or untethered, capable of operating at depths exceeding 1,000 metres ..... A

(2) Specially designed associated systems, equipment, components and materials for the vehicles specified in head (1), including but not limited to pressure housings or pressure hulls, propulsion motors and thrusters and hull penetrators or connectors ..... A”;

(x) in entry IL 1460 (Aircraft and helicopters, aircraft engines and aircraft and helicopter equipment), after head (1), there shall be inserted the following additional head:

“(1A) Specially designed components for aircraft and helicopters specified in head (1) above ..... A”;

(xi) in head (3) of the same entry, in the first line of the exception, after the word “civil”, there shall be inserted the words “aircraft or”;

(e) in Group 3F of Part II of Schedule 1—

(i) for entry IL 1510 there shall be substituted the following entry:

“IL 1510 Marine or terrestrial acoustic or ultrasonic systems or equipment, using acoustic travel time differences, specially designed for positioning surface vessels or underwater vehicles, or for detecting or locating underwater or subterranean objects or features, and specially designed components of such systems or equipment, including but not limited to hydrophones, transducers, beacons, towed hydrophone arrays, beamformers and geophones, other than moving coil or moving magnet electromagnetic geophones, and specially designed software therefor ..... A

except

(1) Marine systems or equipment, the following:—

(a) active transmitting, or transmitting and receiving systems or equipment, the following:

(i) depth-sounders of a kind used solely for measuring the depth of water or the distance of submerged or buried objects vertically below the equipment;

(ii) horizontally-operated systems of a kind used for detecting or locating submerged or buried objects, and having all the following characteristics:

(a) a transmitting frequency of 15 kHz or greater;

(b) a sound pressure level less than 250dB (reference 1 micropascal at 1 metre) for apparatus with an operating frequency of between 15 and 30 kHz and with no decibel limitation for

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- apparatus operating at frequencies of 30 kHz or greater;
  - (c) a transmission capability limited to  $\pm 10\%$  of the design centre frequency;
  - (d) a design incapable of withstanding pressure during normal operation at depths greater than 1,000 metres; and
  - (e) a display range of 5,000 metres or less;
  - (iii) electronic noise sources designed for vertically directional use only;
  - (iv) mechanical noise sources;
  - (v) chemical noise sources;
  - (b) passive receiving equipment, whether or not related in normal application to separate equipment, the following:
    - (i) acoustic hydrophones and transducers, having all the following characteristics:
      - (a) incorporating sensitive elements made of piezoelectric ceramics or crystal and made with a sensitivity no greater than  $-192\text{dB}$  (reference 1 volt per micropascal);
      - (b) a design incapable of operating at depths greater than 100 metres; and
      - (c) independently mounted or configured and incapable of assembly by the user into a towed hydrophone array.
    - (c) systems or equipment for positioning surface vessels or underwater vehicles, having all the following characteristics:
      - (i) their control capability is limited to release and basic transponder capabilities;
      - (ii) they are not capable of processing responses from more than four beacons in the calculation of a single point, and have neither devices nor software performing correction of velocity-of-propagation errors for point calculation, nor any coherent signal processing means;
      - (iii) they are capable only of operating within a range of less than 1,000 metres or, if capable of operating beyond a range of more than 1,000 metres, are not capable of achieving positional accuracy of within 20 metres when measured at a range of 1,000 metres;
      - (iv) transducers, acoustic modules or hydrophones therefor are not designed to withstand pressure during normal operation at depths greater than 1,000 metres; and

- (v) beacons therefor are not designed to withstand pressure during normal operation at depths greater than 1,000 metres, do not have oscillators with a stability greater than  $10^{-5}$  over periods of 24 hours, and do not use complex codes or beamformers which have shaded or formed beams.

(2) Terrestrial systems or equipment having both of the following characteristics:—

- (a) not reasonably capable of conversion by the user to underwater or marine applications specified in this entry; and
- (b) not employing geophones or other transducers specified in this entry.

In this entry “passive hydrophone sensitivities” are based on sensitivity being defined as 20 times the logarithm to the base 10 of the ratio of rms output voltage to a 1 volt reference, when the hydrophone sensor is placed in a plane wave acoustic field having an rms pressure of 1 micropascal. A hydrophone of  $-160$  dB (reference 1 volt per micropascal) would yield an output voltage of  $10^{-8}$  volts in such a field; one of  $-180$  dB sensitivity would yield  $10^{-9}$  volts output.”;

- (ii) in entry IL 1516 (Radio receivers), in the exception to head (2), for the word “ratio” there shall be substituted the word “radio”;
- (iii) in entry IL 1541, IL 1542, IL 1555, IL 1558, IL 1559 (Electronic cathode-ray tubes, vacuum tubes or valves), in head 4(a), for the words “conversion of” there shall be substituted the words “conversion or”;
- (iv) in the same entry, in head 5(a), for the words “more than 12.5MW” there shall be substituted the words “12.5 MW or more”;
- (f) in Group 3G of Part II of Schedule 1—
  - (i) in entry IL 1565 (Computers, electronic, related equipment, equipment or systems incorporating such computers, and specially designed components and accessories for such computers and related equipment), in the definition of the word “incorporated”, the word “not” shall be deleted;
  - (ii) in entry IL 1572 (Recording or reproducing equipment and specially designed components therefor), the exception (1)(c)(vii) (portable or transportable and having a net weight not exceeding 50 kg) shall be deleted;
- (g) in Group 3I of Part II of Schedule 1—
  - (i) in the entry Chemicals, after head (4), there shall be inserted the following additional head:
 

“(4A) Hydrogen fluoride ..... A”;
  - (ii) after the entry Chemicals there shall be inserted the following additional entry:

“IL 1733 Base materials, non-composite ceramic materials, ceramic-ceramic composite materials and precursor materials for the manufacture of high temperature fine technical ceramic products, the following:

(1) Base materials, namely high purity fine powders with uniform particle-size distribution, the following:

single or complex non-composite oxides, borides, carbides or nitrides of silicon, aluminium, boron, zirconium or tantalum ..... A

except

- (a) single oxides of silicon, boron, aluminium or tantalum;
- (b) single or complex borides of silicon; and
- (c) single or complex borides or carbides of aluminium.

(2) Non-composite ceramic materials, in crude or semi-fabricated form, having compositions of the base materials specified, other than as exceptions, in head (1) above ..... A

(3) Granular or fibrous ceramic-ceramic composite materials containing finely dispersed particles or phases of any non-metallic fibrous or whisker-like materials, whether externally introduced or grown in situ during processing, in which the following materials form the host matrix:

- (a) all oxides, including glasses ..... A
- (b) carbides or nitrides of silicon or boron ..... A
- (c) borides, carbides or nitrides of zirconium, hafnium or tantalum ..... A
- (d) carbon ..... A
- (e) any combination of these materials ..... A

(4) Precursor materials, namely special purpose polymeric or metallo-organic materials for producing any phase or phases of the materials specified in heads (2) or (3) above, the following:

- (a) polycarbosilanes and polydiorganosilanes, for producing silicon carbide ..... A
- (b) polysilazanes, for producing silicon nitride ..... A
- (c) polycarbosilazanes, for producing ceramics with silicon, carbon and nitrogen components ..... A

In this entry, “high purity” means that a powder has a total metallic impurity, excluding intentional or desired additions, of less than 1000 ppm for single oxides or single carbides or of less than 5000 ppm for complex compounds, single borides or single nitrides; and “fine powders with uniform particle-size distribution” means powders with at least 90% of the particles being not more than 10 micrometres and the average particle size not

more than 5 micrometres. (For zircons, these limits are 5 micrometres and 1 micrometre respectively.)”

(h) in Group 4, after entry IL 1372 (Technology common to industrial gas turbine engines and gas turbine aircraft engines), there shall be inserted the following additional entry:

“IL 1399 Technology for the design of automatically controlled industrial systems used with software as specified in the entry in Group 3D relating thereto, whether or not such other equipment or systems are specified.”

*E. W. Beston,*  
An Assistant Secretary,  
Department of Trade and Industry.

3rd March 1986.

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#### EXPLANATORY NOTE

*(This Note is not part of the Order.)*

This Order further amends the Export of Goods (Control) Order 1985.

Export control is:

- (a) *introduced* on SWATH vessels, civil aircraft and helicopter components, submersible systems, certain ceramic materials, hydrogen fluoride and software and technology for automatically controlled industrial systems;
- (b) *redefined and extended in scope* on deep submergence vehicles, acoustic or ultrasonic systems, certain video and disc recorders;
- (c) *redefined* on hydrogen/hydrogen isotope separators and civil aircraft;
- (d) *clarified* in respect of copper waste and scrap, ships compasses and gyroscopes.

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