

3. Other technology:
 - a. *Acoustics* None.
 - b. *Optical Sensors* None.
 - c. *Cameras* None.
 - d. *Optics*
 1. Optical surface coating and treatment technology required to achieve uniformity of 99.5% or better for optical coatings 500 mm or more in diameter or major axis length and with a total loss (absorption and scatter) of less than 5×10^{-3} ;
 2. Optical fabrication technologies, as follows:
 - a. For serially producing optical components at a rate exceeding 10 m^2 of surface area per year on any single spindle and with:
 1. An area exceeding 1 m^2 ; and
 2. A surface figure exceeding $\lambda/10$ rms at the designed wavelength;
 - b. Single point diamond turning techniques producing surface finish accuracies of better than 10 nm rms on non-planar surfaces exceeding 0.5 m^2 ; (See also 1025.3.d.)
 - e. *Lasers*
 1. Technology for optical filters with a bandwidth equal to or less than 10 nm, a field of view (FOV) exceeding 40° and a resolution exceeding 0.75 line pairs per mm;
 2. "Technology" "required" for the "development", "production" or "use" of specially designed diagnostic instruments or targets in test facilities for "Super High Power Lasers" (SHPL) testing or testing or evaluation of materials irradiated by SHPL beams;
 - f. *Magnetometers*
Technology "required" for the "development" or "production" of fluxgate "magnetometers" or fluxgate "magnetometer" systems having a noise level:
 1. Less than 0.05 nT rms per square root Hz at frequencies of less than 1 Hz; or
 2. 1×10^{-3} nT rms per square root Hz at frequencies of 1 Hz or more;
 - g. *Gravimeters* None.
 - h. *Radar* None.

NOTES:

Acoustics

1. Governments may permit, as administrative exceptions, the shipment of equipment embargoed by 1061.1.a.1.b.4. for use in civil research or civil exploration work.

Optical Sensors

2. Governments may permit, as administrative exceptions, the shipment of "multispectral imaging sensors" embargoed by 1061.2.b.2.a. or 1061.2.b.2.b.2. provided the Instantaneous Field-Of-View (IFOV) of the "multispectral imaging sensor" is equal to or more than 2.5 milliradians.
3. Governments may permit, as administrative exceptions, the shipment of reasonable quantities of non ruggedized image intensifier tubes embargoed by 1061.2.a.2.a.3.a. for bona fide medical use.
4. Governments may permit, as administrative exceptions, the shipment in reasonable quantities to COCOM-agreed countries of non-ruggedised equipment operating in the visible spectrum, embargoed by 1061.2.c., and containing image intensifier tubes embargoed by 1061.2.a.2.a.3.a., provided they are to be used for civil certified end-uses by civil end-users.
5. The Committee will favourably consider the export of reasonable quantities of image intensifier tubes embargoed by 1061.2.a.2.a.3.a. which are non-ruggedised and which are intended for equipment listed in the Note to 1061.2.c. The Committee will approve the export of equipment described in this Note if no member country has raised an objection within four weeks of the receipt of complete information on the case.

Optics

6. Governments may permit, as administrative exceptions, the shipment of the following for installation and use at ground-based bona fide academic or civilian astronomical research sites or in international air- or space-based bona fide academic or civilian astronomical research projects:
For the stated end-use, a limit of:
 - a. One optical mirror embargoed by 1061.4.a.1.;
 - b. Three optical mirrors embargoed by 1061.4.a.2.;
 - c. Three optical mirrors embargoed by 1061.4.a.4.;
 - d. Three optical components embargoed by 1061.4.b.;

- e. Ten optical filters embargoed by 1061.4.d.1.a.;
- f. One piece of optical control equipment embargoed by 1061.4.e.2. for each operational mirror;
- g. Four pieces of optical control equipment embargoed by 1061.4.e.4.;
- h. Three "substrate blanks" embargoed by 1063.4.a.;
- i. A reasonable quantity of the bulk fluoride glass embargoed by 1063.4.e.2.;
- j. A reasonable quantity of the materials embargoed by 1063.4.f.

N.B.:

The above limitations refer to specific projects.

Lasers

7. Governments may permit, as administrative exceptions, the shipment, for civil applications, of "lasers", as follows:
 - a. Neodymium-doped (other than glass), pulse-excited, "Q-switched lasers" embargoed by 1061.5.c.2.c.2.b. having:
 1. A pulse duration equal to or more than 1 ns; and
 2. A multiple-transverse mode output with a "peak power" not exceeding 400 MW;
 - b. Neodymium-doped (other than glass) "lasers" embargoed by 1061.5.c.2.c.3.b. or 1061.5.c.2.c.4.b.:
 1. Having:
 - a. An output wavelength exceeding 1,000 nm but not exceeding 1,100 nm; and
 - b. An average or CW output power not exceeding 2 kW; and
 2. Being:
 - a. Pulse-excited, non-"Q-switched" multiple-transverse mode; or
 - b. continuously excited, multiple-transverse mode;
 - c. Carbon dioxide "lasers" embargoed by 1061.5.a.4.:
 1. Being in CW multiple-transverse mode; and
 2. Having a CW output power not exceeding 15 kW.

Lasers

8. Governments may permit, as administrative exceptions, the shipment of optical equipment embargoed by 1061.5.g. when intended for use with unembargoed lasers or embargoed lasers the export of which has been authorized by the Committee.

Radar

9. Governments may permit, as administrative exceptions, the shipment of ground radar equipment specially designed for enroute air traffic control, and "software" specially designed for the "use" thereof, provided:
 - a. It is embargoed by 1061.8.i.;
 - b. It has a maximum "instrumented range" of 500 km or less;
 - c. It is configured so that the radar target data can be transmitted only one way from the radar site to one or more civil ATC centres;
 - d. It contains no provisions for remote control of the radar scan rate from the enroute ATC centre; and
 - e. It is to be permanently installed under the supervision of the exporter or the exporter's Western agent, so that the "instrument range" and volumetric coverage of the radar encompasses an ICAO air route.

N.B.:

The "use" "software" must be limited to "object code" and the minimum amount of "source code" necessary for installation, operation or maintenance.

10. Governments may permit, as administrative exceptions, the shipment of ATC "software" application "programmes" embargoed by 1064.3.h.1., provided:
 - a. The number of "system tracks" does not exceed 700;
 - b. The number of primary radar inputs does not exceed 32; and
 - c. The "software" is further limited to "object code" and the minimum amount of "source code" necessary for installation, operation or maintenance.
11. Governments may permit, as administrative exceptions, the shipment to the People's Republic of China of the following equipment:

Acoustics

- a. Acoustic systems or equipment for determining the position of surface vessels or underwater vehicles, provided:
 1. They are not capable of processing responses from more than 8 beacons in the calculation of a point;
 2. They do not have devices for correcting automatically speed-of-sound propagation errors for calculation of a point;