

U.S. Export Administration Regulations (EAR) Legal Explanation and Compliance Methodology

PART A: Re-export controls – What restrictions might apply to foreign persons use of U.S.-derived research equipment, technology, and software and source code (as defined in the EAR)

1. In terms of classification, software is classified separately from technology; however source code can be classified as part of technology¹. Thus, both object and source code can be controlled, so the ECCNs need to be checked.
2. **Re-export² means**
 - a. An **actual shipment or transmission of technology** (or other item) subject to the EAR from one foreign (i.e. importing) country to another foreign country³ -; or
 - b. **transfers within the importing** country: “In country” which means a change in end use or end user within the same foreign (i.e. importing) country - physical transfer is not needed⁴.
3. **‘Deemed’ re-export⁵** refers to restrictions in respect of people - non-U.S. nationals: release of technology, or software source code contrary to applicable restrictions, is deemed to be a re-export to that person’s home country even if it does not go there physically or there is no physical transfer to the person and so may require an authorisation under the EAR. It is important to note that object code is not controlled under the deemed re-export rules.
4. Just because something is a deemed re-export, does not mean that a licence is required. However, if the ECCN indicates there are re-export controls, and there is no general authorisation (e.g. TSR or STA), then a specific authorisation must be sought. However, the important thing to remember is that the controls are not extensive for most scientific research equipment. The controls bite on military, space and integrated circuit and other sensitive technologies.
5. The need for authorisation would generally depend on the classification of technology or source code and what controls were applicable for that country under the EAR. The more sensitive the technology or software source code the more restrictions apply to – and need for an EAR authorisation for - access by foreign nationals and to technology and source code shipments to the more highly controlled destinations. Where dual nationality applies, the most recent citizenship or permanent residence

¹ See further paragraph 6ciii below

² Re-export definition in 15 CFR 734.14; Transfer (in country) definition in 15 CFR 734.16

³ Part 734.14 (a)(1)

⁴ If you send a machine physically in the UK but there is no change in end use/user there is no transfer in-country ; by contrast sending to another university or other end user would be a transfer (in-country) (e.g. sending a machine to another place in the UK for maintenance) means there is a change in end user which may require an EAR authorisation. Equally if the machine was received under a BIS licence which restricted the scope of the use and the use was changed, then an authorisation

⁵ 15 CFR 734.14 (a)(2) and (3)(b)

governs for EAR⁶. For ITAR any citizenship permanent residency at any time in their life governs⁷. A transfer within the UK to a British national where the most recent citizenship or permanent residency of that person is the UK would not be a deemed reexport under the EAR. Deemed reexports focuses on the release to third country nationals, such as a “release” to a French national in the UK.

6. **Using equipment for academic research is not normally controlled.** A licence or other EAR authorisation or an EAR licence exception will be needed in 3 distinct situations:
- a. End use or end user (General Prohibitions⁸) apply
 - b. AT (anti-terrorism) controls (only) apply
 - c. Other Commerce Control List (“CCL” - specific ECCN controls) apply.

ECCN basics:

- i. Specific controls are set out in Export Control Classification Numbers (ECCNs).⁹
- ii. An ECCN is a designation that an item is controlled because of its specific performance characteristics, qualities, or designed-end use. The item can be a tangible or intangible (i.e., software or technology).
- iii. ECCNs are very precisely defined and are focused on commodity, software and technology product groupings.
- iv. An ECCN is a five-digit alphanumeric designation that categorises items based on the nature of the product, i.e. type of commodity, software, or technology and its respective technical parameters. An example of an ECCN is 0A979, which corresponds to police helmets and shields.
- v. Each ECCN lists important information that includes a general description of the controlled item(s), the reason(s) for control, available list-based licence exceptions, and, when necessary, additional details on related controls, and more specific item definitions. Part 740 sets out the categories of list-based exceptions and other licence exceptions (transaction based exceptions), which may be available to authorise the export, reexport, or transfer (in-country) if the terms and conditions of a licence exception are met. However, you also need to check section 740.2 (the General Restriction ¹⁰) of the EAR that the export, re-export, or transfer (in-country) is not otherwise restricted from the use of licence exceptions).
- vi. New or expanded ECCNs have been added for supercomputers, advanced integrated circuits and semiconductors, and the list of ECCNs are updated on a fairly frequent basis to reflect multilateral agreements or to address other U.S. national security or foreign policy interests,

⁶ 15 CFR 734.14(b)

⁷ This could be addressed through an enhanced security check – see the BIS guidance in 2013 and the U.S.-UK Exchange of Notes. Alternatively, a self-compliance procedure can allow access through the importer monitoring the user’s contacts with the home country – if they go to or are engaged in transactions with the home country.

⁸ The 10 General Prohibitions are set out in the Export Control Reform Act (ECRA). See also EAR Part 736. General Prohibitions 5 and 6. are implemented by the EAR parts 744 and 746 respectively. (General Prohibition 7 is a U.S. person activity prohibitions, so likely do not apply to the UK, unless there are U.S. persons working at your organisation and the U.S. person has “knowledge” the activity they are involved with is prohibited under 15 CFR 744.6.)

⁹ “A key in determining whether a re-export licence is needed from the Department of Commerce is knowing whether the item you intend to export has a specific Export Control Classification Number (ECCN). The ECCN is an alphanumeric code, e.g., 3A001, that describes the item and indicates licensing requirements. All ECCNs are listed in the Commerce Control List (CCL) (Supplement No. 1 to Part 774 of the EAR” - <https://www.bis.doc.gov/index.php/regulations/commerce-control-list-ccl>.

¹⁰ There are 24 General Restrictions. Most are not likely to be applicable but for example sending to a prohibited end user or destination is a General Restriction which may apply. Part 746 (Embargoes) also have to be considered. Sometimes specific items are restricted - Advanced Integrated Circuits are a specific General Restriction.

such as identifying new section 1758 technologies (emerging and foundational technologies) – these are specifically rather than broadly defined. Therefore, it is important to know the classification of the items. Be aware that the classifications change when changes are made to the EAR, so an up-to-date check is required. BIS has a free email notification service that the public may sign up for to be notified of changes to the EAR. See <https://www.bis.gov/>

vii. Russian and Belarusian sanctions controls apply to all items classified in ECCNs (country-based sanctions in part 746 of the EAR for any item on CCL classified in an ECCN) and most EAR99 items. Most industrial items are controlled – food and medicine is not controlled. In general, there is multilateral agreement on sanctions between the U.S., the UK and EU so compliance with UK sanctions is likely to be sufficient. Deemed export and deemed re-exports are excluded from the Russian and Belarus sanctions based controls imposed under section 746.8(a)(1). However, bear in mind that non-sanctions based CCL licence requirements do still apply to deemed export and deemed re-exports. For example, a CCL National Security (NS) controlled technology to be released to a Russian national would still require an EAR authorisation because NS controlled technology requires a licence authorisation in respect of Russia.

7. Where restrictions apply they have to be observed unless BIS grant a licence or another EAR authorisation is available, e.g. an EAR licence exception. In some cases (e.g. for most prohibited end users) there is a presumption of denial, so the licence is very likely to not be approved – the details are set out in the presumption of denial licence review policy. For Russia and Belarus sanctions in parts 744 and 746 of the EAR, the licence review policy is generally a policy of denial for the sanctions that have been added to the EAR to address Russia’s invasion of Ukraine with certain licence applications being reviewed under a case-by-case licence review policy, e.g. applications for items that meet humanitarian needs. However, even where there is a licence requirement and even if there is prohibited end use or user, a licence exception may still apply - for example where international cooperation is required (international space stations involving Russia or IAEA nuclear safeguard activities in Syria).

8. The end-use and end user ‘General’ prohibitions **apply whether or not the item is specifically controlled by an ECCN. They apply in most cases even if the item has the designation EAR99** - a broad low-level classification that covers most commercial goods. They affect UK HE where an equipment user (collaborator, researcher or student)

- is from **North Korea, (Crimea region of Ukraine, the Donetsk People’s Republic, or Luhansk People’s Republic, but note that BIS uses the country of Ukraine for determining the deemed reexport requirements for Ukrainian nationals, so a deemed reexport of EAR99 technology or source code would not require an EAR authorisation for a Ukrainian national, unless a part 744 end use or end user control was applicable)**¹¹

¹¹ Unless they have obtained U.S. ‘protected person’ status e.g. political refugees and political asylum holders. Embargoed countries are often listed on end user declarations as Cuba, Iran, North Korea, Syria, and the Crimea region of Ukraine. Why then do the deemed re-export restrictions for EAR99 technology only apply to N Korea?

a. the EAR *destination-based licence requirements for deemed re-exports of EAR99 technology or source code for the equipment* subject to the part 744 end use and end-user checks, including the Entity List screening checks, do not extend to releases of technology or source code (see para 15b above) to Iranian, Cuban, and Syrian nationals.

However, if the technology or source code for the equipment is not EAR99 and is controlled for Anti-Terrorism (AT) or any other ECCN controls then restrictions do apply to those nationals – see paragraph 9.

b. the embargo controls and so licence requirements remain in place for releases of technology or source code to nationals from North Korea (see § 746.4(a) of the EAR).

- is a **prohibited end user** <https://www.trade.gov/data-visualization/csl-search>¹²
- will be doing **military intelligence** research¹³;
- is a Russian or Belarusian ‘military end user’
- will be doing **missiles or chemical or bioweapons** research; or
- **any other standard prohibited end use**

Research in relation to *nuclear fuel cycle activities* is controlled under the EAR but the controls *do not* apply to activity in the UK - Supplement No. 3 to part 744 provides that this section (§ 744.2(a) of the EAR) does not apply to exports, re-exports, or transfers (in-country) to or within UK.

9. Where the equipment or technology or source code is not EAR99 and is controlled for AT-reasons only, access to the technology or source code may not be given to nationals of Cuba, Iran, or Syria unless authorised under a BIS licence or licence exception. Where controlled for reasons other than AT, a licence will be required if the restrictions cannot be observed.¹⁴

c. for the Crimea region of Ukraine, the Donetsk People’s Republic, and Luhansk People’s Republic, as noted above, BIS uses Ukraine as the country for determining these deemed export and reexport requirements. 15 CFR 746.6 of the EAR - Crimea Region of Ukraine and Covered Regions of Ukraine)

d. Russian and Belarus sanctions apply to items classified in any ECCN on the CCL under § 746.8 of the EAR. However whilst such licence requirements specified on the Commerce Control List (CCL) in supplement no. 1 to part 774 of the EAR, say that *a licence is required* to export, reexport, or transfer (in-country) to or within Russia or Belarus any item subject to the EAR and specified in any Export Control Classification Number (ECCN) on the CCL; *this excludes deemed exports and deemed reexports*, to export, reexport, or transfer (in-country) to or within Russia or Belarus any item subject to the EAR and specified in any Export Control Classification Number (ECCN) on the CCL. The EAR imposes additional licence requirements on Russia and Belarus under § 746.8 of the EAR for items that would otherwise be EAR99, but § 746.8 of the EAR also includes an exclusion for deemed reexports. **Therefore, in practice the deemed re-export controls for EAR99 technology or source code that require a licence only apply to North Korea. For technology and source code, which are not EAR99 but are controlled for AT-Reasons (but not other controls) the deemed re-export restrictions also apply to Cuba, Iran, and Syria. An EAR authorisation is required for deemed re-exports in those circumstances – and of course for other countries where there are additional specific ECCN controls, e.g. for Missile Technology controlled technology or source code.**

¹² The Entity List includes various entities added because of WMD reasons. But there are even more entities on the list for other reasons that are of concern for other U.S. national security and foreign policy concerns, such as being involved in IED networks that have killed or injured U.S. and allied soldiers or being involved in human rights abuses.

¹³ Use of a microprocessor for direct military use or by a military end user includes any person or entity whose actions or functions are intended to support ‘military end uses’; the restriction does not apply where use is for or on behalf of the official use by agencies of a cooperating government (i.e. a Wassenaar participating authority such as the UK) authorised by Licence Exception GOV pursuant to section 740.11 of the EAR. (The nomenclature is Part 740, the section is the numbered section of the Part.)

Part 744 does impose licence requirements and other restrictions for certain specified military end uses and/or military end users, **but these do not include EAR99 designated items except for certain military-intelligence end uses or end users and Russian and Belarusian military end uses and end users.**

Allowing a UK defence contractor to use an EAR99 designated piece of equipment would be unlikely to trigger any part 744 end use or end user controls. Due diligence is needed but part 744 of the EAR controls are unlikely to apply. (Military End Use applies to Supp. No. 2 items, which includes many AT items; therefore, this restriction applies to items controlled for AT-reasons that are identified in § 744.21 of the EAR. Note that Russia and Belarus military end use will also apply to EAR99 items. This is reflected in the Standard Prohibited End Uses list. The military end use prohibition that applies to EAR99 is captured in item 5. The military end use prohibition that would additionally apply to certain AT controlled items (or other non-EAR99 items) is described in Item 6.

¹⁴ EAR §§ 746.7 and 746.2 - Deemed re-exports to Syrian, Cuban foreign nationals involving technology or source code subject to the EAR do not require a licence if EAR99. If not EAR99 but controlled for AT or any other CCL control, e.g. controlled for National Security, then the restrictions apply and BIS licence is required to authorise the deemed re-exports or an EAR authorisation, e.g. a licence exception.

10. In general, do not ship U.S.-derived equipment out of the UK without checking the ECCNs. The basic rule is not to ship U.S.-derived equipment within the UK without checking if there is to be a change in end use or end user; in which case check whether a BIS licence is needed. Similarly, if U.S.-derived equipment was received under a BIS licence, an EAR authorisation may be required to go outside the scope of the original licence, if a licence would still be required under the EAR to export or reexport that U.S.-derived equipment to the UK.

However, the Australia, UK, and U.S. Trilateral Security Partnership (AUKUS) removes licence requirements for many export, re-export, or transfer of U.S. controlled items between the U.S. Australia and the UK. The BIS rule was effective immediately such that the licence requirement for NS1, RS1, and MT1 are no longer applicable for exports and re-exports (as of April 19, 2024). Thus most U.S.-origin derived equipment controlled under NS1, RS1, or MT1 received originally under a BIS licence, may now be shipped (including in-country) within the UK without requiring an EAR authorisation.

The *deemed* re-export rules (in relation to access by people) still apply. It does however make it easier in respect of the re-export rules for AUKUS country personnel using U.S. derived technology or source code outside their home state.

11. Do not transmit ('release') technology or source code to non-UK nationals without considering the end use and end user General Prohibitions and any other CCL controls which apply. Release¹⁵ of EAR-controlled technology or source code to students, researchers or visitors who are not UK nationals ("deemed re-export") is controlled and may require an EAR authorisation. So, when is there a 'release of technology or source code' for which a licence is needed?
- a. Using object code is not controlled – it is access to the source code which is controlled.
 - b. There are some exceptions - release in the course of academic lab instruction, published proprietary material. These are *not subject to the EAR at all* – they are not deemed reexport exceptions¹⁶.
 - c. The *mere operation* of a piece of equipment does not normally qualify as "release" of "technology" as defined in the EAR. *Technology in this sense does not refer to the physical manifestation which users operate.*
 - d. The definition of technology is: information required for the "development," "production," "use" operation, installation, maintenance, repair, overhaul, or refurbishing - See full definition at <https://www.bis.doc.gov/index.php/documents/regulations-docs/2258-part-772-definitions-of-terms-1>.
 - e. 'Release' is defined in EAR § 734.15 – providing visual or other inspection of items or oral or written exchanges that reveal "technology" or source code, including release of access information (i.e. provision of software keys)¹⁷.
 - f. Where an ECCN control parameter controls "use" of technology, that applies to all 6 aspects of use (operation, installation (including on-site installation), maintenance (checking), repair, overhaul and refurbishing. Mere operation, including training to use equipment does not amount to "use" because not all the 6 elements of use are engaged. Academics rarely 'use' equipment in all the 6 aspects. Academics typically operate - and even perhaps also maintain

¹⁵ See para **Error! Reference source not found.** above, footnote 5

¹⁶ See EAR § 734.3. Examples of activities that are not deemed re-exports are in § 734.20 of the EAR)

¹⁷ 'Release' is defined in § 734.15 of the EAR – providing visual or other inspection of items or oral or written exchanges that reveal "technology" or source code, including release of access information (i.e. provision of software keys)

and maybe repair – but those are only 3 of the 6 aspects of use. So when the ECCN control attaches to ‘use’, that kind of limited use is not controlled, because not all the 6 elements of use are present but check all the ECCNs that apply and that there are no restrictions on specific aspects of use (for example installation might be controlled specifically). If ‘use’ only is controlled, then the classification is likely to be EAR 99 provided all 6 elements of use are not present in the access given.

- g. Note however that an ECCN may specifically control one of the 6 aspects of use. This is usually in the case of 500- (space), 600- (munitions) series, and 0x5zz (firearms) ECCNs. If the control was on maintenance, being able to maintain would be sufficient to trigger the control.
- h. ECCNs impose controls by reference to country, and the ECCN control parameters may also reference the use of the item. ECCN restrictions may apply to the equipment *and* to the underlying technology. Therefore, it is important to check the Commerce Control List (CCL) ECCNs separately for the equipment, and also for the technology and software. Many of the equipment ECCNs will include a Related Controls section that will reference where the related technology and software is controlled on the CCL to assist re-exporters.

12. Compliance, both actual and documented, could be achieved when buying equipment, using a set of forms such as the attached *US Export Controls – UK End User Compliance Process (User Instructions & Templates)*.

PART B: Other controls which apply to use of U.S. derived research equipment, technology, software and source code; or to U.S. persons

1. The Foreign Direct Product Rule may apply to the development of research prototypes or other items where those include certain U.S. derived research equipment, technology, software or source code. UK-made items, including prototypes made by a UK university for re-exporting may be subject to the EAR if the amount of controlled U.S. origin content exceeds the applicable de minimis level for the country to where the UK-made item is being re-exported. Certain EAR items as specified in section 734.4(a) of the EAR are excluded from de minimis – in other words there is no de minimis relaxation – for example 600 series U.S. military components when incorporated into non U.S. made items. If a higher percentage of U.S. controlled components is incorporated into the prototype than the de minimis % which applies to that technology, and the technology is to be exported, made available to a foreign person, or transferred in country outside the scope of the export basis from the U.S. (i.e. the licence) then a licence needs to be obtained before supplying that prototype.
2. In general, the relaxation of U.S. re-export rules under AUKUS arrangement make onward transfer of technology between the U.S., the UK and Australia much easier and in most cases will mean such transactions will not require an EAR authorisation, which should help to facilitate collaboration between these countries.
3. However new country controls have been added to the EAR since October 2022 to address U.S. national security and foreign policy concerns related to certain destinations. They relate to export, and re-export (export to another country or transfer in country) controls – but not deemed re-exports (i.e. foreign national controls) of the U.S. derived items to destinations of concern:
 - a. Advanced computing items (supercomputers and “advanced-node integrated circuits”) – destinations of concern: Macau and Country Groups D:1, D:4, and D:5, and

- b. Semiconductor manufacturing equipment (SME) to make the types of advanced-node integrated circuits used in advanced computing items -”) – destinations of concern: Macau and D:5¹⁸.
4. These controls also impose a new end-use control under section 744.23 in relation to U.S. derived advanced computing items and SME:
- a. UK universities should be aware that if they are using for research for companies headquartered (currently not yet defined) in Macau or a destination specified in Country Group D:5, e.g. China, end-use control may apply for transfers within the UK to such entities. Therefore, review section 744.23(a)(3)(i)19 prior to engaging in that kind of research for these types of companies.
 - b. These new EAR controls have also included the addition of new foreign direct product rules when exporting UK made items out of the UK under section 734.9 thus items made in the UK – such as prototypes – which include U.S. advanced computing items now have to be considered under the foreign direct product rules.

In summary section 744.23 means that in certain cases the EAR foreign direct product controls now lie, not just on ‘who may use’ but on what research may be done using U.S. advanced computing items which involve certain destination or parties of concern.

5. There is an expanded parallel control under section 744.6A: A “U.S. person control”²⁰ applies to U.S. nationals who are researchers in a UK university. This control applies even if no U.S. derived supercomputers, advanced integrated circuits or semiconductors are involved. Now U.S. nationals *may not be involved in research in those subject areas for a company headquartered or its ultimate parent is located in Macau or a country subject to a U.S. arms embargo e.g. China.*

A UK university as part of its voluntary export compliance programme when employing “U.S. persons” may ask whether they are aware of the “U.S. person” controls under section 744.6 of the EAR and confirmation that they will comply. By taking this type of step as part of a voluntary compliance programme, the UK university can help raise awareness of their “U.S. person” employees of these “U.S. person” controls and have documentation that shows the “U.S. person” understands the UK university has the expectation and written commitment from the “U.S. person” that they will comply with the “U.S. person” control. The EAR does not require this as part of a UK university compliance programme but is something a UK university may adopt as part of a voluntary compliance programme.

¹⁸ These new controls include new or expanded CCL-based controls with new ECCNs being added or existing ECCNs being expanded under ECCNs 3A090 and 4A090, as well revisions of existing ECCNs, such as 3B001.

¹⁹ (3) *Advanced computing items.* (i) Any item subject to the EAR and specified in ECCN 3A001.z, 3A090, 4A003.z, 4A004.z, 4A005.z, 4A090, 5A002.z, 5A004.z, 5A992.z, 5D002.z, or 5D992.z destined to any destination other than those specified in Country Groups D:1, D:4, or D:5 (excluding any destination also specified in Country Groups A:5 or A:6) for an entity that is headquartered in, or whose ultimate parent company is headquartered in, either Macau or a destination specified in Country Group D:5 (e.g., a PRC-headquartered cloud or data server provider located in a destination not otherwise excluded).

²⁰ “U.S. persons” (as defined in part 772 of the EAR) are responsible for understanding what types of prohibited activities they may not be involved with under the EAR. This may mean in certain cases, a “U.S. person” may tell a university that they are not allowed to be involved in certain prohibited “U.S. person” activities, even if the underlying item is not subject to the EAR. The “U.S. person” control is generally a narrowly focused end-use control and includes certain exclusions, but this is another aspect U.S. export controls about which a UK university should become aware.

6. What if a supplier wants to impose more restrictions than the EAR requires, as part of its voluntary compliance programme? You can discuss and object to that, by pointing out that the requirements go beyond what is legally required and that the university cannot undertake to observe additional restrictions, for example relating to the ‘indirect’ misuse of the research done using the U.S. supplier’s equipment - because the university may well not know what applications its research done on the U.S. research equipment might be used for.

Many universities for example collaborate with UK defence companies. That is not precluded by U.S. export control rules, although any exports, reexports, or transfers (in-country) of items to a third party are subject to the EAR and must be done in accordance with it. UK defence companies typically are very aware of U.S. export controls. In these types of scenarios communicating with the U.S. exporting party to explain to them that the UK university is aware of the EAR controls and has a compliance programme in place, can sometimes help to resolve requests for application of restrictions that go beyond the EAR and ease the concerns of the person making the request.

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U.S. EXPORT ADMINISTRATION REGULATIONS (EAR): Controls on using U.S. derived research equipment, technology, and software and source code in the UK, and associated specific controls on what research some technology may be used for and what research “U.S. persons”, who are students or researchers in a UK university may not do.

Note: In developing this document, the EAR outreach material on the U.S. Department of Commerce Bureau of Industry and Security (BIS) website was reviewed, and the BIS was consulted on the EAR provisions referenced in this document. Version 1.1 of this note was also reviewed by George Grammas, Partner Squire Patton Boggs. Footnotes are provided to enable readers to consult the legislation and BIS website guidance. If in doubt, consult BIS.

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