



Understanding the Scope of the Environmental Modification Convention in Export Control Compliance



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When determining whether a product requires an export license, an export compliance officer must first classify a product for export purposes. A license requirement may arise in the case that the product to be exported is determined to be a defense-related good, a torture-good, a dual-use good, a civilian good subject to restriction, or when it falls into a catch-all provision in one of these domains.[i] In this article, the Environmental Modification Convention is considered, which is one of several legal texts used to identify under Luxembourg law a defense-related good subject to a restriction for exports and transfers, and whose application may have farther reaching effects than is first apparent.

The Environmental Modification Convention, formally known as the “Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD)” entered into force on 5 October 1978, and has 78 State parties as of January 2022.[ii] Article I prohibits States parties from engaging in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to another State party. Under Article II, the term “environmental modification techniques” refers to any

technique for changing - through the deliberate manipulation of natural processes - the dynamics, composition or structure of the earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space. Article III clarifies that environmental modification techniques used for peaceful purposes shall not be hindered, and that generally recognized principles and applicable rules of international law concerning such use remain applicable; moreover, state parties undertake in the fullest possible exchange of scientific and technological information on the use of environmental modification techniques for peaceful purposes. And Article V provides for a consultation mechanism to solve any problem arising in relation to the objectives and in the application of the provisions of the Convention, including the establishment of a Consultative Committee of Experts to be chaired by the Secretary-General of the United Nations.[iii]

The ENMOD comes into focus of export compliance thanks to Article IV, as each State Party "undertakes to take any measures it considers necessary in accordance with its constitutional processes to prohibit and prevent any activity in violation of the provisions of the Convention anywhere under its jurisdiction or control", which led to an inclusion of a related provision (in the sense of a prohibition of certain transactions) in Luxembourg's Export Control law of 27 June 2018 (Article 22.1.2).[iv]

But what can be considered a military or hostile environmental modification technique? Additional context comes from the Understandings in the Annex of the Convention, relating to Articles I, II, III and VIII.[v] In Article I, the terms "widespread", "long-lasting" and "severe" respectively encompass an area on the scale of several hundred square kilometers, lasting for a season or a period of months, and involving serious or significant disruption or harm to human life, natural and economic resources or other assets. Article II gives a non-exhaustive list of phenomena, ranging from earthquakes and tsunamis, to weather and climate patterns, to the changes in the state of the ozone layer and to the state of the ionosphere (i.e., part of Earth's upper atmosphere, between 80 and about 600 km, which is important because 1. it reflects and modifies radio waves used for communication and navigation; and 2. thousands of spacecraft operate within those altitudes). Moreover, Article II clarifies other unlisted phenomena may also be applicable, so long as the criteria set out in Article I are met. And Article III clarifies that the Convention does not deal with the question of whether a given use of environmental modification techniques for peaceful purposes is in accordance with generally recognized principles and applicable rules of international law.

A familiar environmental modification technique example comes from the scorched earth approach taken by Iraqi military forces in the Gulf War in 1991, when more than 600 oil wells were set ablaze in their retreat from Kuwait. Cloud seeding can be seen as another environmental modification technique which is used by many countries arguably for peaceful purposes; however, the potential for it to be used for hostile purposes remains as well. Moreover, it can be argued that Anti-satellite tests (ASAT tests) in low earth orbit (LEO) and further in outer space can also be considered to fit within the criteria of Article I (i.e. as the debris generated can have widespread, long-lasting or severe effects to other State parties). In that last example, it is worthwhile to note that every major space actor and several of ESA's Member States are State parties to this Convention.

In some ways, perhaps mega-constellations which overcrowd orbital planes and obscure the sky for optical astronomers could be viewed to fit within this criterion, depending on how State parties interpret the term hostile and the sextupling of operational satellites in LEO (i.e., from 7,500 in 2021, to around 50,000 satellites in operation when Starlink is completed). And as humanity reaches farther

into outer space, new instances of environmental modification techniques might emerge with the creation of safety/keep-out zones, landing pads, and other infrastructure on the Moon and beyond. But let's leave that for the policymakers to figure out.

For the export compliance officer that is classifying a product for export purposes, this context should help to give a better understanding of potential environmental modification techniques, and stay compliant with Luxembourg law that formally prohibits import, export and transit of an environmental modification technique.

[i] Source: [Guichet.lu: Item Classification Sheet](#)

[ii] Source: [United Nations Office for Disarmament Affairs](#)

[iii] Source: [Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques \(ENMOD\) – True copy.](#)

[iv] Source: [Export Control law of 27 June 2018](#)

[v] Source: [Annex - Consultative Committee of Experts – Understandings \(pgs. 91-92\).](#)