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International legal obligations related to Prevention, Preparedness, Response and Recovery from CBRN events and status of their implementation in Italy (CBRN-ITALY)

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**CBRN ‘AGENTS’, ‘EVENTS’ AND ‘ACTORS’: IN SEARCH OF
WORKING DEFINITIONS**

Task 1.1

Laura Magi, Diego Mauri

Deborah Russo and Luisa Vierucci

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About this publication

This paper is the outcome of research carried out in the scope of the project CBRN-ITALY on International legal obligations related to Prevention, Preparedness, Response and Recovery from CBRN events and status of their implementation in Italy.

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The project aims at developing a common understanding of CBRN events and of actors involved (stage 1), at mapping obligations stemming from the wide range of applicable norms of International Law and European Union Law (stage 2), at exploring the implementation of applicable international obligations in Italy (stage 3) and at providing recommendations to address the gaps in the International, European and Italian legal and policy frameworks in all phases of the CBRN emergency management cycle (stage 4). The research activities are thus structured around four stages: 1. Definitions, 2. Mapping International and Regional Obligations, 3. Assessing the situation in Italy, 4. Providing recommendations.

For further information on the PRIN Project CBRN-ITALY, please visit:

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Table of contents

Abstract

1. Introductory remarks
2. United Nations
 - 2.1 First phase: 1948-2000
 - 2.2 Second phase: 2000-today
 - 2.3 Third phase: 2015-today
 - 2.4 Final remarks
3. NATO
 - 3.1. First phase 1949-1990: threats of nuclear attack by enemy states
 - 3.2. Second phase 1990-2001: broadening the notion of threat
 - 3.3. Third phase 2002-today: CBRN events and non-state actors
 - 3.4. Final remarks
4. European Union
 - 4.1 Introduction
 - 4.2 EU instruments dealing with chemical, biological and radio-nuclear substances
 - 4.3 EU instruments dealing with CBRN ‘agents’, ‘events’ and ‘actors’
 - 4.4 Concluding Remarks: Time for Zooming in on other types of CBRN ‘events’?
5. OSCE
6. Selected National Approaches

Annex I - Table of relevant EU instruments

Abstract

Chemical, biological, radiological and nuclear (CBRN) events are considered amongst the most dangerous security threats for today's societies. The present Paper strives to provide an overview of existing definitions of CBRN 'agents', 'events' and 'actors' as adopted by main International Organizations (UN, NATO, EU, OSCE) and by some States. The analysis is conducted from a critical perspective, so as to single out the main commonalities and distinctions among the relevant definitions and to highlight inconsistencies and shortcomings resulting therefrom, namely when it comes to legal instruments (both soft- and hard-law) containing too narrow or partial definitions. It is suggested that an 'all-hazard' approach, capable of attributing relevance to particular categories of 'events' sometimes falling outside the scope of main legal instruments, is preferable, and that the subsequent mapping of CBRN-related international and EU obligations has to take into account the limits of existing definitions.

1. Introductory remarks

Chemical, biological, radiological and nuclear (CBRN) events are often considered amongst the most dangerous security threats for today's societies. Their threat spectrum is associated not only with the specific materials and substances employed ('agents'), but also with their means of delivery and employment, as well as with the context and the mode such agents are used within - in a word, with the kind of 'event' under scrutiny.

There is a variety of factors contributing to the magnitude of the risks associated with CBRN events: their origin (whether man-made, both intentional and accidental, or natural), the materials involved in the process of release (traditional agents, radionuclides, sophisticated instruments designed for the gradual and unnoticeable release of such agents), and also the 'actors' playing a role therein (States, International Organizations, non-state actors, corporations, individuals). In sum, a mosaic made up of numerous pieces whose shapes and colours are so diverse that it seems hard to put them together in a unitary framework, especially when it comes to analysing existing rules and principles of international law dealing with CBRN events.

The present paper – whose aspiration is to stand as a 'working' paper, that is to inspire debate and research questions – aims at providing readers with a critical overview of definitions of CBRN 'agents', 'events' and 'actors' that have been so far elaborated by the main International Organizations dealing with CBRN-related issues, namely the United Nations (Section 2), the NATO (Section 3), the European Union (Section 4), the Organization for Security and Cooperation in Europe (Section 5), and by a selected number of States that play a leading role in the field (Section 6).

2. United Nations

Three different phases can be distinguished in the history of the United Nations (UN), representing three different approaches the Organization has adopted as for the threat to human health and natural environment stemming from natural or man-made (accidental or intentional) release of chemical, biological and radioactive agents.

In a first phase, starting from the beginning of the Organization's activity until the late 1990s, the UN mainly devoted its efforts to regulate the production, development, stockpiling and destruction of weapons used to disperse chemical, biological and radioactive agents.¹ During this

¹ Hereafter the term 'radioactive' will be used together with the word 'agent(s)' to refer both to nuclear and radiological agents. Instead, when the reference will be to threats and events the distinction between nuclear and

phase, the UN did not employ the term CBRN events/threats and actors; indeed the acronym had not yet been coined. At most, weapons making use of these agents were gathered under the common label of weapons of mass destruction (WMD).

This was the time when as for chemical and biological agents, armed conflicts were the only events the UN took into account as triggering their dispersal; therefore the UN dealt only with man-made and intentional dispersion of them; moreover the means of their diffusion (namely threat) it considered were only weapons. On the contrary, as for radioactive agents the UN approach to them has been partially different since the first phase. Indeed while the Organization has sponsored the conclusion of treaties banning nuclear experiments and stopping the proliferation of nuclear weapons, it has also monitored the release of radioactive agents because of their civilian use. As a result, the UN and its specialized agency, IAEA, have even dealt with natural events (e.g. earthquakes) or man-made accidental events (e.g. industrial accidents) as causes for release of radioactive agents since the 1950s.

The CBRN label, to refer to chemical, biological and radioactive agents, whose release put individuals or groups at significant risk, appears in the UN language only in the twenty-first century, in the framework of the Security Council (SC) and General Assembly (GA) actions to counter international terrorism. It marked the beginning of a second and ongoing phase of the United Nations' action aimed at countering the dispersal by specific entities (non-state actors) of agents highly harmful to humans and the environment by means of terrorist attacks. Once again, the UN action is intended to contrast intentional man-made activities (e.g. smuggling, development, transfer or use) of CBRN weapons, but now the UN action is extended more generally to CBRN materials (and not limited to weapons).

2015 marks the beginning of a new phase (the third), which overlaps with the second. During the new phase the United Nations has been coping with the risks connected to the dispersion of chemical and biological agents by events different from armed conflicts and terrorist attacks. In particular, the new scenarios where the risk of dispersion of chemical and biological agents may occur and the UN has been developing its risk reduction strategy are natural and man-made accidental events (like earthquakes, floods, fires, industrial accidents) or man-made activities (like agricultural production), or the combination on them (i.e. a tsunami causing an industrial accident that leads to the release of hazardous substances from an industrial facility.) However the UN has never used the CBRN label in the framework of disaster risks reduction. This suggests that in the UN language the 'CBRN' label remains closely linked to the fight against international terrorism; nonetheless the UN

radiological (threats and events) will be applied because the kind of radiological and nuclear threats are different and the effects as well as the effects they cause.

has also been developing a broader approach to the risks associated with the spread of chemical, biological and radioactive agents. It follows that the actors involved other than States and IOs are private actors different from terrorist groups, like companies and farmers.

The following paragraphs will give account, in a nutshell, of the rules and policies that the United Nations and some of its specialized agencies have adopted in the three phases outlined above to counter the negative consequences of using CBRN agents.

2.1 First phase: 1948-2000

The (possible) development and use of chemical, biological, radiological and nuclear weapons and their destructive potentialities have been matters of concern for the UN since its establishment. In particular the General Assembly (GA) has called for the regulation and reduction of weapons of mass destruction (WMD) since its first resolution.²

According to the UN Commission on Conventional Armaments, a subsidiary body of the Security Council (SC) established in February 1947,³ WMD had to be defined to include atomic, radioactive, chemical and biological weapons.⁴ Significantly, the GA accepted such a definition only later, in 1977, with Resolution 32/84.⁵

Starting from the end of the 1960s, the prohibition of chemical and biological weapons became the main issue on the agenda of the Eighteen-Nation Committee on Disarmament,⁶ a multilateral disarmament forum outside the UN and formally independent from it, but whose activity the GA oriented and monitored.⁷

In 1969, the GA called for the elaboration, by the Secretary General, of what became an influential⁸ report on the effects of chemical and biological weapons, which contained a list of chemical agents (nerve, blister and choking agents, toxins, tear and harassing gases, herbicides) and

² UNGA Res 41 (I) (14 December 1946).

³ UNSC Res 18 (13 February 1947) UN Doc S/RES/18.

⁴ UN Commission on Conventional Armaments Resolution of 18 August 1948, UN Doc S/C.3/32/Rev.1.

⁵ The delay occurred because the Soviet Union voted against the Commission's Resolution above quoted and blocked its submission to the Security Council. When in 1975 the Soviet Union proposed to negotiate a treaty banning the development and manufacture of all weapons of mass destruction, it reversed its early position and this led the GA to adopt the 1948 definition: see W Seth Carus, 'Defining Weapons of Mass Destruction' (2012) Center for the Study of Weapons of Mass Destruction Occasional Paper No. 8, <https://ndupress.ndu.edu/Portals/68/Documents/occasional/cswmd/CSWMD_OccasionalPaper-8.pdf> accessed 2 April 2020. See also United Nations, *United Nations and Disarmament 1945-1970*, 28, <https://read.unilib.org/disarmament/united-nations-and-disarmament-1945-1970_8c81b842-en#page42> accessed 2 April 2020.

⁶ UNGA Res 1722 (XVI) (20 December 1961).

⁷ M Bothe, 'Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction' UN Audiovisual Library of International Law, <<https://legal.un.org/avl/ha/cpdpsucw/cpdpsucw.html>> accessed 2 April 2020.

⁸ J Goldblat, 'The Biological Weapons Convention: An Overview' [1997] 318 *International Review of the Red Cross* 251, 252.

biological agents (bacteria, viruses, fungi and microbes known as rickettsiae) causing serious injuries and death to humans, animals and plants.⁹

Meanwhile, a report by the World Health Organization (WHO) on the health aspects of chemical and biological weapons was issued in 1970. As for chemical agents, it generically referred to ‘all substances employed for their toxic effects on man, animals, or plants.’¹⁰ As regard biological agents, it referred to ‘those [agents] that depend for their effects on multiplication within the target organism, and are intended for use in war to cause disease or death in man, animals or plants.’¹¹ A list of them was annexed to the report.

Two years later, in 1972, State delegates in the Conference of the Committee on Disarmament – the successor of the Eighteen-Nation Committee on Disarmament – agreed on the text of a Convention on biological weapons (BWC),¹² which was adopted by the GA with Resolution 2826 (XXVI) of 16 December 1971. It qualifies biological agents as microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes (Article I).

The Final Document of the Eighth Review Conference of the States Parties to the BWC confirms that the ‘Convention is comprehensive in its scope and that all naturally or artificially created or altered microbial and other biological agents and toxins, as well as their components, regardless of their origin and method of production and whether they affect humans, animals or plants, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes, are unequivocally covered by Article I.’¹³

Although simultaneous prohibition of chemical and biological weapons would have been desirable, they were treated separately and only in the early ‘90s, after a long negotiation under the aegis of the Conference of the Committee on Disarmament (re-named Conference on Disarmament in 1984) States agreed on a convention prohibiting chemical weapons,¹⁴ which was adopted by the GA with Resolution 47/39 of 30 November 1992.

⁹ Report of the Secretary General, ‘Chemical and Bacteriological (Biological) Weapons and the Effects of Their Possible Use’ (1969) UN Doc A/7575/Rev.1; S/9292/ Rev.1, 12-18.

¹⁰ WHO, ‘Health Aspects of Chemical and Biological Weapons’ (1970), 12. The Report clarified that the definition excluded chemicals employed in warfare such as high explosives, smoke, and incendiary substances (e.g., napalm, magnesium, and white phosphorus) that exert their primary effects through physical force, fire, air-deprivation or reduced visibility.

¹¹ *ibid.* The Report clarified that the definition excluded toxins elaborated by some microbes (e.g., botulinum toxin and staphylococcal enterotoxin) when they are performed outside the target organism.

¹² Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (adopted by GA with Resolution 2826 (XXVI) of 16 December 1971).

¹³ Eighth Review Conference of the States Parties to the BWC, ‘Final Document of the Eighth Review Conference’ UN Doc BWC/CONF.VIII/4 (11 January 2017).

¹⁴ Exactly Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction.

Article II of the 1992 Chemical Weapons Convention (CWC) defines ‘toxic chemicals’ as ‘[a]ny chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals. This includes all such chemicals, regardless of their origin or of their method of production.’ A list of ‘toxic chemicals’ that will be subject to verification measures provided by the Convention are listed in the annexes of it. The definition of the Convention only includes toxic effects on human beings and animals, not effects on plants (e.g., herbicides).

In parallel with negotiations for the control of chemical weapons, the GA also promoted actions to monitor and prevent risks linked to the spreading of radioactive agents. On one hand in 1955 it set up a subsidiary body, the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), mandated to monitor and study the effects of exposure to ionizing radiations, but not limiting the analysis to those associated with nuclear-weapon testing.¹⁵ Over the years, the Committee has studied the effects of radioactive accidents like the largest civilian nuclear accidents in Chernobyl in 1986¹⁶ and in Fukushima-Daiichi in 2011.¹⁷ On the other hand the GA has always encouraged and supported nuclear disarmament and non-proliferation negotiations. While in an early stage the GA called for nuclear disarmament, the idea of nuclear non-proliferation prevailed in the early 1950s, after the US President Eisenhower’s proposal ‘Atoms for Peace’ was presented to the eighth session of the GA, calling for an international organization to be established to disseminate peaceful nuclear technology, while guarding against development of weapons capabilities without eliminating it. Firstly this resulted in the establishment of the International Atomic Energy Agency (IAEA) in 1957, a UN specialized agency, charged with the dual responsibility of promoting and controlling nuclear technology. Later, non-proliferation negotiations were carried out in the framework of the Conference of the Eighteen Nation Disarmament Committee under the GA ‘pressing’ (that is the adoption of several resolutions) calling on the Conference to give priority to the negotiations of an international instrument to prevent the proliferation of nuclear weapons. Negotiations resulted in the adoption of the Non-Proliferation Treaty (NPT) the General Assembly commended with resolution 2373 (XXII), in June 1968.

The Statute of the IAEA provided for the first and most authoritative definition of nuclear materials necessary for the production of nuclear weapons or other nuclear explosive devices (Article

¹⁵ UNSCEAR submits an annual report to the United Nations General Assembly, usually discussed in October by the GA Fourth Committee, which subsequently recommends a resolution to the Assembly for its adoption.

¹⁶ For any document see <https://www.unscear.org/unscear/en/chernobyl.html>, accessed 2 April 2020.

¹⁷ UNSCEAR, ‘Report of United Nations Scientific Committee on the Effects of Atomic Radiation, UN Doc A/68/46 (May, 2013).

XX).¹⁸ The NPT did not define what constitutes nuclear arms, but clearly made reference to weapons intended to release nuclear agents as referred to in Article XX of the IAEA Statute.

Since its inception IAEA has developed nuclear safety standards to prevent the dispersal of ionizing radiations throughout the environment because of testing of nuclear weapons and nuclear accidents. Moreover, after the entry into force of NPT it has verified through its inspection system that States parties comply with their commitments under the Treaty to use nuclear material and facilities only for peaceful purposes. Therefore the Agency's approach to risks connected to the release of radioactive agents has always been focused even on events other than armed conflicts and terroristic attacks and on actors other than States and terrorist groups.

2.2 Second phase: 2000-today

The acronym CBRN appeared in UN documents in the early 2000, as part of the fight against international terrorism, after the SC Resolution 1373 (2001) admission of a significant connection between international terrorism and the illegal movement of CBRN materials. Afterward, the SC Resolution 1540 adopted in 2004 affirmed that proliferation of nuclear, chemical and biological weapons, as well as their means of delivery, constituted a threat to international peace and security, and imposed upon States the obligation to refrain from supporting non-State actors to develop, acquire, manufacture, possess, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery.¹⁹ Meanwhile in 2006 the Global Counter-Terrorism Strategy and its Plan of Action²⁰ called upon the UN Member States, international organizations and the UN system as a whole to strengthen the coordination and cooperation in combating the smuggling of CBRN materials and in planning a response to a terrorist attack using CBRN weapons or materials as well as to improve border and customs controls to prevent and detect their illicit traffic; lastly, it also recommended States to ensure that biotechnologies were not used for terrorist purposes.

In this context, the event generating the spreading of CBRN agents is *par excellence* the

¹⁸ 'The term "special fissionable material" means plutonium-239; uranium- 233; uranium enriched in the isotopes 235 or 233; any material containing one or more of the foregoing; and such other fissionable material as the Board of Governors shall from time to time determine; but the term 'special fissionable material' does not include source material. The term "uranium enriched in the isotopes 235 or 233" means uranium containing the isotopes 235 or 233 or both in an amount such that the abundance ratio of the sum of these isotopes to the isotope 238 is greater than the ratio of the isotope 235 to the isotope 238 occurring in nature. The term "source material" means uranium containing the mixture of isotopes occurring in nature; uranium depleted in the isotope 235; thorium; any of the foregoing in the form of metal, alloy, chemical compound, or concentrate; any other material containing one or more of the foregoing in such concentration as the Board of Governors shall from time to time determine; and such other material as the Board of Governors shall from time to time determine.'

¹⁹ UNSC Res 1549 (28 April 2004) UN Doc S/RES/1540.

²⁰ UNGA Res 60/288 (20 September 2010).

terrorist attack, an intentionally man-made event, while the means of delivery are no more necessarily weapons. Since then the CBRN label has been used in the UN documents adopted to implement the SC resolution 1540 and the 2006 GA Global Counter-Terrorism Strategy and its Plan of Action.²¹

It is worth noting that while SC resolution 1540 refers to nuclear, chemical and biological weapons, the Plan of Action annexed to the GA Global Counter-Terrorism Strategy refers to nuclear, chemical, biological, radiological weapons and materials, both distinguishing between nuclear and radiological agents – and therefore enlarging the modalities for spreading radioactive agents –, and including means of release other than weapons.

Both the SC resolution 1540 and the GA Global Counter-Terrorism Strategy do not contain any definition of chemical, biological and radioactive agents nor refer to the conventions above mentioned for their definition. Contrariwise, the UN Office of Counter-Terrorism has recalled the definitions provided in the above mentioned conventions.²²

In this phase the UN approach to CBRN events and threats has mainly entailed the adoption of hard law and soft law acts intended to impose upon States specific obligation to prevent and counter non state actors' use of CBRN agents.

2.3 Third phase: 2015-today

A third phase has begun since 2015 and has been developing and overlapping to the second one. While since the first phase the UN and its agencies have developed an all-inclusive approach for radiological and nuclear events/threats and actors alone, the third phase marks the beginning of an all-inclusive approach even towards chemical and biological events/threats and actors. This has occurred in the framework of the UN activities for disaster risk prevention and reduction where accidental man-made chemical, biological, radiological and nuclear events have been taken into account. For instance one can imagine a natural event, like an earthquake, that leads to the scattering

²¹ Several UN offices have been involved in the implementation of SC resolution 1540 and the GA Global Counter-Terrorism Strategy. It is worth mentioning first the United Nations Office on Counter-terrorism, established by Resolution 71/291 of 15 June 2017, that has developed a Weapons of Mass Destruction/ Chemical Biological, Radiological and Nuclear Programme (WMD/ CBRN) to assist Member States in implementing the Strategy. An important role is also played by the Terrorism Prevention Branch of the United Nations Office on Drugs and Crime (UNODC/TPB). The latter has been assisting States with the ratification and implementation of seven international conventions and protocols that deal, to varying degrees, CBRN terrorism (that is the 1980 Convention on the Physical Protection of Nuclear Material and its 2005 Amendment, the 1997 International Convention for the Suppression of Terrorist Bombings, the 2005 International Convention for the Suppression of Acts of Nuclear Terrorism, the 2005 Protocol to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, the 2005 Protocol to the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms located on the Continental Shelf and the 2010 Convention on the Suppression of Unlawful Acts relating to International Civil Aviation).

²² UN Office of Counter-Terrorism, *Ensuring Effective Interagency Interoperability and Coordinated Communication in Case of Chemical and/or Biological Attacks*, New York, 2017.

of viruses from a scientific laboratory.

The achievements the UN has been pursuing in the ongoing phase consist mainly in providing States with data and analysis to support national decision-making processes in adopting the better preventive and controlling measures during emergencies. It is definitely a different activity from that performed in the second phase, which – as said above – consists mainly in regulating or directing (and coordinating) States' actions in the fight against international terrorism.

A first signal of the new approach is provided in the Draft Articles on the Protection of Persons in the Event of Disasters, adopted by the International Law Commission at its sixty-eighth session, in 2016, and submitted to the General Assembly.²³ In fact it deals with disaster not limiting the origin of the event, that is to say taking either natural or human-made disaster into account (see Article II, Definitions).

It has been in the context of the work carried out by the UN Office for Disaster Risk Reduction (UNDRR), upon the request of the GA, that risks connected to the dispersal of chemical, biological and radioactive agents due to both natural and man-made events have been taken into account. A similar all-inclusive approach has been followed by a UN agency, the WHO, in the adoption of the manual titled 'Rapid Risk Assessment of Acute Public Health Events',²⁴ a guide developed to help States to make a rapid risk assessment of acute public health risks from any type of hazards, including biological, chemical, and radio-nuclear hazards.

As regards the UN, at the end of the third World Conference on Disaster Risk Reduction in Sendai (March 2015) the participating States adopted the Sendai Framework for Disaster Risk Reduction 2015-2030, a non-binding agreement intended to guide the multi-hazard management of disaster risk at all levels, and asked the UNDRR to support the implementation, follow-up and review of it. Hazards as mentioned in the Sendai Framework include biological hazards,²⁵ which have been defined in the Recommendations on Terminology Relating to Disaster Risk Reduction as 'of organic origin or conveyed by biological vectors, including pathogenic microorganisms, toxins and bioactive substances. Examples are bacteria, viruses or parasites, as well as venomous wildlife and insects, poisonous plants and mosquitoes carrying disease-causing agents.'²⁶ Chemical hazards are not specifically mentioned in the Sendai Framework. However the Terminology Related to Disaster Risk Reduction-Updated Technical Non-Paper, adopted by the UNDRR in September 2016, provides that

²³ UN Doc A/71/10, para 48. The Report will appear in Yearbook of the International Law Commission, 2016, vol. II, Part Two.

²⁴ WHO, *Rapid Risk Assessment of Acute Public Health Events*, Geneva, 2017.

²⁵ UNDRR, *Sendai Framework for Disaster Risk Reduction 2015-2030*, New York, 2015, para 15.

²⁶ UNGA Res 71/276 (13 February 2017), see Section V on Recommendations on terminology relating to disaster risk reduction (DRR updated terminology), 18. The term 'hazard' is defined as a 'process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation': *ibid.*

while '[c]hemical hazards are not mentioned specifically in the Sendai Framework, however both environmental and technological hazards may also include chemical hazards.' It is also provided that for the definition of chemical hazards, reference should be made 'to the relevant UN Conventions such as the Rotterdam Convention, the Hazardous Chemicals and Wastes Convention and the Stockholm Convention on Persistent Organic Pollutants.'²⁷ More recently the Global Assessment Report (GAR) on Disaster Risk Reduction adopted in 2019 has included chemical/industrial accidents among the hazards the Sendai Frameworks takes into account.²⁸

Lastly, whereas only nuclear radiations are included in the Recommendations on Terminology Relating to Disaster Risk Reduction, the 2019 GAR takes both nuclear and radiological risks into account, and splits them from the technological risks. Moreover, it interestingly clarifies that while it is a well-established practice to distinguish exposures related to nuclear power generation from other radiation exposures, there is no distinction between nuclear and radiological risks. Indeed from the physical point of view, both situations may result in the same kind of radiation exposure. Therefore the distinction between nuclear and radiological hazards considers only the different characteristics of the source of the risk, namely nuclear risks arise (or may potentially arise) from the uncertainties in the management of a nuclear chain reaction or the decay of the products of a chain reaction, while the radiological risks arise from uncertainties related to any other activities involving ionizing radiation.'²⁹

It cannot be ignored that the acronym CBRN does not appear in the Sendai Framework and it has been replaced by reference to individual chemical, biological and radioactive agents. The main reason is not related to the deletion of any reference to armed conflicts from the Sendai Framework's final text.³⁰ The real reason seems to be that the Framework wants to mark the difference from the previous phase; indeed while the GAR 2019 considers armed conflicts as cause or a con-cause of disasters, armed conflicts or terrorist attacks are never considered as the drivers that may cause the diffusion of biological, chemical and radioactive agents. This would confirm, once again, that the CBRN label is used in the 'realm' on the UN only with reference to armed conflicts or as materials to be engaged in terrorist attacks.

²⁷ UNDRR, 'Terminology Related to Disaster Risk Reduction-Updated Technical Non-Paper', September 2016, 10.

²⁸ UNDRR, 'United Nations Global Assessment Report on Disaster Risk Reduction (GAR)' (2019) 117 ff.

²⁹ *ibid.*, 110 f.

³⁰ Even if formally deleted GAR 2019 repeatedly links disasters to armed conflicts. For instance, armed conflicts often destroy infrastructures like dams, increasing the risk of disasters; moreover the destruction of natural barriers such as forests further increases the risk of natural disasters; war usually destroys transportation infrastructure, weakening the ability to distribute clean water, food, medicine, and relief supplies. See S Stein and C Walch, 'The Sendai Framework For Disaster Risk Reduction as a Tool for Conflict Prevention', July 2017, 1, <https://www.preventionweb.net/files/54222_54222cpppaperthesendaiframeworkasa.pdf>.

2.4 Final remarks

The UN has been concerned with the risks of dispersal of chemical, biological and radioactive agents since its inception. As far as chemical and biological agents are concerned, the Organization initially addressed their use in the manufacture of weapons, while with regard to radioactive agents it has always taken into account also risks connected to their civilian uses. Subsequently, after 9/11, the agents were grouped under the CBRN umbrella and the Organization focused predominantly on the risks of their use by non-state actors, either through weapons or through dispersion of such materials by other modalities/devices. Later, the UN has adopted an all-inclusive approach to events that can cause the spread of CBRN agents, taking also into account events like industrial accidents, natural disasters or intensive farming practices, although it has no more made use of the acronym CBRN.

3. NATO

As a military alliance born in the aftermath of WWII, NATO has started to discuss issues related to CBRN events very early. Initially limited to nuclear defence and deterrence concerns, over time NATO has turned towards devising responses to chemical attacks against its own military forces (3.1). These threats were seen as coming from state actors, with weapons of mass destruction (WMD) being the main danger and only in an armed conflict situation. In the 1990s NATO broadened the notion of threat so as to include those coming from terrorist acts and even outside a conflict scenario (3.2).

The 2001 9/11 terrorist attacks and anthrax incidents sparked a sudden shift in NATO's view over similar events up to the point that the Alliance changed posture, further enlarging the scope of the threat as to include CBRN material (thus adding radiological agents) and focusing more stringently on non-state actors. In the more recent years, the Alliance has become increasingly concerned with protection from biological agents, nonetheless keeping its traditional defensive approach against state armed attacks or terrorist acts (3.3).

These three phases will be now briefly discussed.

3.1. First phase 1949-1990: threats of a nuclear attack by enemy states

Though no reference to CBRN events may be found in the founding treaty,³¹ famous Article 5³² was conceived as a nuclear guarantee for the Alliance at a time when the Soviet Union was believed dangerous for its capacity for a massive conventional attack.³³ As a matter of fact in December 1956 NATO adopted a Military Committee document³⁴ that centered the Alliance Strategic Concept on defense in case of a nuclear attack. In this period, the acronym WMD, standing for Weapons of Mass Destruction, was used, and the danger was perceived as coming from an armed attack from the Soviet Union or Warsaw Pact countries.

The exclusive concern of the Alliance was the security of its member states, in particular their territorial integrity. The scenario that the Alliance was prepared for was mainly that of an armed conflict, where even nuclear weapons could be used. Against this background, it is not surprising that the 1986 Chernobyl nuclear incident has not had any meaningful impact on the Alliance position on external threats traceable to CBRN events. However, especially in the 1980s, concern arose with respect to defence from chemical agents and debates started within the Alliance, stemming in some policy papers focusing on the defence by chemical agents of its military forces deployed in out of area operations.³⁵

3.2. Second phase 1990-2001: broadening the notion of threat

During the last phase of the cold war, the prospective for the use of nuclear weapons had already gradually decreased and led to the relevant nuclear disarmament agreements of the 1990s.³⁶

The end of the cold war opened new avenues for NATO, whose 1991 *Alliance's Strategic Concept* recognized that its 'security interests' could be affected by risks of a wider nature than a state armed attack, 'including proliferation of weapons of mass destruction, disruption of the flow of vital resources and actions of terrorism and sabotage.'³⁷ As it is well known, this Strategic Concept

³¹ North Atlantic Treaty (1949), available at https://www.nato.int/cps/en/natohq/official_texts_17120.htm.

³² In the relevant part Article 5 reads as follows: 'The Parties agree that an armed attack against one or more of them in Europe or North America shall be considered an attack against them all and consequently they agree that, if such an armed attack occurs, each of them, in exercise of the right of individual or collective self-defence recognised by Article 51 of the Charter of the United Nations'.

³³ J. Mendelsohn, NATO's Nuclear Weapons: The Rationale for 'No First Use', available at <https://www.armscontrol.org/act/1999-07/features/natos-nuclear-weapons-rationale-first-use>.

³⁴ A Report by the Military Committee on Overall Strategic Concept for the Defense of the North Atlantic Treaty Organization Area, MC-14/2 available at <https://www.nato.int/docu/stratdoc/eng/a570523a.pdf>.

³⁵ E. Spiers, NATO's Preparations for Chemical Warfare, in *Chemical Warfare*, Palgrave Macmillan 1986, p. 142.

³⁶ See https://www.nato.int/cps/en/natohq/topics_50325.htm

³⁷ Para 2 of the Concept.

changed the Alliance's posture from one exclusively linked to defend its members' territory to a provider of 'the indispensable foundations for a stable security environment in Europe'.

In 1994, on the wake of the UN Security Council statement of January, 31st 1992, the *Alliance Policy Framework on WMD* was adopted on the premise that 'proliferation of WMD and their delivery means poses a threat to international security and is a matter of concern to the Alliance'. The aim was to increase means to strengthen efforts against the proliferation of these weapons. Alongside the traditional focus on threats coming from states, in this document mention was also made of the threat posed by 'non-State actors, such as terrorists' who may also try to acquire WMD capabilities. This document is therefore of much relevance in that for the first time threats from private individuals are singled out as being of concern for the Alliance. Still, the involvement of the Alliance against terrorist risks was rudimental, with member states being urged to take measures, 'in accordance with their national legislation', 'for the most effective cooperation possible to prevent and suppress this scourge'.³⁸

In is in this period that a change of lexicon within the Alliance can be noticed with respect to WMD: in the Final Communiqué issued at the Ministerial Meeting of the North Atlantic Council on December 1996, reference to WMD was replaced by the expression 'nuclear, biological and chemical weapons'.³⁹ However, no use of the NBC acronym⁴⁰ seems to have been made as yet.

The new *Alliance Strategic Concept* adopted at the 1999 Washington summit employed for the first time the acronym NBC when reiterating concern that '[t]he proliferation of nuclear, biological and chemical (NBC) weapons and their means of delivery c[ould] pose a direct military threat to Allies' populations, territory, and forces'.⁴¹ In addition, concern for terrorism was reaffirmed and strengthened: '[t]errorism constitutes a serious threat to peace, security and stability that can threaten the territorial integrity of States'.⁴² The new Strategic Concept also contained several references to NBC threats posed by states and non-state actors alike and lied the bases for the multi-faceted preventive approach of the Alliance in case of similar events.⁴³

3.3. Third phase 2002-TODAY: CBRN events and non-state actors

³⁸ Brussels Declaration of 11 January 1994, para 19.

³⁹ In particular: 'Proliferation of nuclear, biological and chemical weapons and their delivery means continues to be a matter of serious concern to us', p. 9 of the Communiqué.

⁴⁰ As we shall see, the CBRN acronym came after the NBC one.

⁴¹ Para 2 of the document. On that occasion, NATO also initiated a Weapons of Mass Destruction Initiative aimed to address the risks of proliferation of these weapons under the aegis of the WMD Non-Proliferation Centre.

⁴² Para 42 of the document.

⁴³ See in particular paragraphs 22 and 53(h) of the Strategic Concept.

Several events, in particular the 9/11 terrorist attacks against US soil and the delivery of anthrax letters to several US citizens causing a few deaths pushed the Alliance to complete the switch of focus from state to non-state actors' threats and by the same token marked somehow a deflection in the attention given to nuclear defence.⁴⁴ At the 2002 Prague summit, held only a few months after these attacks, NATO approved a new military concept this time mainly devoted to defense against terrorism, where, importantly, CBRN defense was defined as a priority.⁴⁵

It is at this summit that the acronym CBRN started to be used so that also radiological agents could be covered. The purpose was to expand the Alliance scope of action beyond armed conflict to include any threat of a chemical, biological, radiological and nuclear nature addressed not only to NATO forces or against the territorial integrity of a member states but also to 'populations and territories'.⁴⁶

Institutional changes were implemented to make this concept shift operational, the main considerable of which are the creation in 2003 of the Multinational CBRN Defence Battalion and Joint Assessment Team⁴⁷ and in 2007 the opening of the Joint CBRN Defence Centre of Excellence in Vyškov, Czech Republic.

At the Riga summit in 2006, Allied leaders declared that the spread of WMD and the possibility that terrorists will acquire such weapons were the principal threats to the Alliance over the following 10-15 years. Therefore they endeavoured to continue their efforts 'to develop capabilities to counter chemical, biological, radiological and nuclear threats' and defined terrorism as a 'complex threat' that required operational responses under the NATO's Defence Against Terrorism initiatives. Lastly they set up a Comprehensive Political Guidance (CPG) to better analyse future challenges for security environment, including WMD and terrorist threats.

In the previous phases, NATO had been scarcely concerned with biological threats. If one excludes the ratification of the 1972 Biological Weapons Convention by all NATO member states, it would be difficult to find specific issues of relevance for the Alliance with respect to this type of threats. Biological threats became a new focus of the Alliance in April 2009 when the Heads of State and Government approved the Comprehensive Strategic-Level Policy for Preventing the Proliferation of WMD and Defending against CBRN Threats, which is the key document with respect to CBRN issues. While recognising that 'NATO today faces a whole range of complex challenges and threats

⁴⁴ This phase is characterized by renewed awareness that proliferation of nuclear weapons poses to the world (see NATO Final Communiqué of the 2012 Chicago Summit meeting) and by the same token by the dangers of nuclear disarmament (see NATO statement on the 2017 Treaty on the Prohibition of Nuclear Weapons at https://www.nato.int/cps/ua/natohq/news_146954.htm).

⁴⁵ NATO's Military Concept for Defence Against Terrorism, MC-472, 2002. See also Cellino A., *Nato and Bioterrorism Defence*, in *Encyclopedia of Bioterrorism*, 2011 (p. 2).

⁴⁶ Prague Summit Final Declaration, paras 3 and 4.

⁴⁷ Since 2007 they have been part of the Combined Joint CBRN Defence Task Force.

to security, much different from the threat faced by Allies when the Alliance was formed',⁴⁸ it emphasizes that '[n]uclear weapons and radiological and chemical agents that remain in the world could be vulnerable to exploitation if not properly secured'. Interestingly, CBRN material is defined as 'an umbrella term for chemical, biological and radiological agents in any physical state and form, which can cause hazards to our populations, territory and forces. It also refers to the chemical weapons precursors, and facilities, equipment or compounds that can be used for development or deployment of WMD, CBRN weapons or CBRN devices.'⁴⁹

Importantly for our purposes a CBRN event is said 'to refer to any realisation of a CBRN threat.' And a CBRN threat is defined as referring to the threat of WMD, CBRN weapons, CBRN devices or release of CBRN materials.'⁵⁰ Therefore it seems that CBRN material is the genus while WMD a species thereof.

This new Policy is important also because for the first time reference is made to biological threats, in two different perspectives. Firstly, in the traditional anti-terrorism context: '[r]apid advances in biological science and technology continue to increase the bio-terrorism threat and there are indications that terrorists intend to acquire chemical, biological, radiological and nuclear (CBRN) materials for malicious purposes'. Secondly, under the completely new angle of health threats, though for the narrow scope of exchanges of information with WHO: '[i]nformation sharing with the World Health Organisation (WHO), for instance, could enable the Alliance to better monitor and identify anomalies in global health trends, leading to earlier detection of and improved response to biological threats.'⁵¹

Also the last *Alliance Strategic Concept*, adopted in 2010, contains one reference to health: '[k]ey environmental and resource constraints, including health risks [...] will further shape the future security environment in areas of concern to NATO and have the potential to significantly affect NATO planning and operations'.⁵²

As a matter of fact, health concerns for deployed NATO personnel has increased over time in this phase, also on account of the H1N5 influenza virus and Ebola virus outbreaks. For example, the 2007 NATO Logistics Handbook specifies that: '[d]isease and Non-Battle Injury (DNBI) is an ever-

⁴⁸ Para 1.

⁴⁹ See NATO's Comprehensive, Strategic-Level Policy for Preventing the Proliferation of Weapons of Mass Destruction (WMD) and Defending against Chemical, Biological, Radiological and Nuclear (CBRN) Threats, 1 September 2009, available at https://www.nato.int/cps/en/natolive/official_texts_57218.htm

⁵⁰ Ibid. The document includes a vast array of measures to be taken to prevent, manage and recover from the use, among alia, of CBRN material, also to support the member states in the implementation of the UN Security Council resolution 1540 (2004) against terrorism.

⁵¹ Para 31.

⁵² Para 15. For the rest this dense document reaffirms the well-known approach to counter-terrorism, also including threats of CBRN events.

present health risk to personnel. The primary responsibility of medical support is the maintenance of health through the prevention of disease and injury.... Whenever there is a suspected or confirmed outbreak of a contagious disease, the commander must be given medical advice on Restriction of Movement.’ In addition, ‘Medical support concepts, plans, structures, and operating procedures must be understood and agreed by all involved. The medical support should ensure a surge capability to deal with peak casualty rates in excess of expected daily rates.’

In 2012 NATO elaborated the Joint Allied Doctrine on Chemical Biological Nuclear and Radiological (CBRN) Defence providing NATO strategic and operational commanders with ‘fundamental principles for the planning, execution, and support of NATO operations for which the threat and/or risk of intentional or accidental use of chemical, biological, radiological, and nuclear (CBRN) substances are either assessed or exist’, outside a scenario of offensive use of weapons containing these material.

The Doctrine sets out that:

‘The boundaries between natural and man-made threats and their resulting hazards are often difficult to distinguish at the time of the incident. Initially, it may not be possible to differentiate between a deliberate attack and an accidental release, or the outbreak of an endemic/pandemic pathogen. Commanders, therefore, must be able to respond appropriately to the entire threat spectrum based on CBRN defence principles and using resources such as environmental, force health protection and medical assets.’⁵³

Interestingly, the logic remains confrontational even in the part of the document where the characteristics and effects of each substance are defined in detail, since it is specified that these are the types of substances that may be employed by an ‘adversary’.

In the same year, the Handbook for Sampling and Identification of Biological, Chemical and Radiological Agents⁵⁴ was also approved.

In addition, at least since 2011 the Alliance has been concerned with the implementation of the WHO International Health Regulations in case of ‘public health events of international concern’⁵⁵ as requested by the NATO Biological Medical Advisory Council Expert Panel (BioMedAC EP). This

⁵³ Par. 0201. This Doctrine has been revised in 2018 but its content is confidential.

⁵⁴ AEP-66 NATO Standard (2012) NATO handbook for Sampling and Identification of Biological, Chemical and Radiological Agents (SIBCRA) Edition 1, Version 1.

⁵⁵ Carl A. Curling, Julia K. Burr and Audrey C. Kelley NATO CBRN Medical Working Group - Table Top Exercise on International Health Regulations: Documentation and Output, May 2014, Institute for Defence Analyses, available at <https://www.ida.org/-/media/feature/publications/n/na/nato-cbrn-medical-working-group-table-top-exercise-on-international-health-regulations-documentation/d-4798.ashx>.

Panel was established under the CBRNMedWG's to "provide medical advice on biological threats, biohazards, endemic and emerging diseases, biodefence and health protection."

Despite the adoption of these health-related documents, more attentive than before to contagious diseases, at the high political level the standpoint of the Alliance seems to have remained centered on threats coming from states and terrorists, with little or no attention being paid to unintentional release of CBRN material let alone to naturally generated events such as epidemic outbreaks. In this respect the 2018 Brussels summit declaration is revealing:

'We are committed to NATO's enhanced role in the international community's fight against terrorism, including through awareness and analysis, preparedness and responsiveness, capabilities, capacity building and partnerships, and operations. We will fully implement the Action Plan we agreed at our meeting in May 2017 and will update it by the end of 2018 to adapt to evolving priorities and to counter emerging terrorist threats. NATO's enhanced contribution to fighting terrorism must continue to be supported by adequate and sustainable human and financial resources, as agreed. Building on our Defence Against Terrorism Programme of Work, we will continue to improve our capabilities and technologies, including to defend against improvised explosive devices and chemical, biological, radiological, and nuclear (CBRN) threats, and to counter terrorist misuse of technology. We have agreed a new biometric data policy which, consistent with applicable national and international law and subject to national requirements and restrictions, will further support our ability to identify returning foreign terrorist fighters and other threat actors, and to comply with UNSCR 2396.'⁵⁶

The declaration further clarifies that 'NATO will ensure that Allies can protect their populations, forces, and territories by deterring, defending against, responding to, and mitigating the consequences of the full spectrum of the chemical, biological, radiological, and nuclear threats, including with trained and rapidly-deployable forces.'⁵⁷

In short, NATO's preparedness in the field of biological threats has received less attention than other threats in the past years, despite the fact that the CBRN Defence Battalion⁵⁸ is specifically trained and equipped to deal with CBRN events, including 'natural disasters'.

This conclusion is warranted also by the fact that the 2015 NATO Terminology Database⁵⁹ uses a definition of the term 'CBRN incident' that, importantly, does not mention natural hazards:

⁵⁶ Para 1.

⁵⁷ Para 23.

⁵⁸ This Battalion is a NATO body 'specifically trained and equipped to deal with CBRN events and/or attacks against NATO populations, territory or forces' and operative since 2004 (NATO website).

⁵⁹ <https://nso.nato.int/natoterm/Web.mvc>.

‘[a]n occurrence due to the suspected or confirmed presence of chemical, biological, radiological or nuclear substances, either arising from the intention to use them by an aggressor, or following their intentional or accidental release.’

Neither seems the label ‘CBRN release other than attack’ defined in the same Database to enlarge the type of events covered:

‘The accidental dispersion of nuclear, biological or chemical contaminants, resulting from causes other than attacks by chemical, biological, radiological, and nuclear weapons, excluding friendly attacks on adversary chemical, biological, radiological, and nuclear weapons or adversary facilities containing chemical, biological, radiological, and nuclear weapons.’

Similarly, the 2018 STANAG on medical support in CBRN events specifies that “CBRN incidents include the detonation of CBRN weapons and the accidental or deliberate release of chemical and biological agents, toxic industrial chemicals (TICs) and toxic industrial materials (TIMs), biological pathogens and toxins, and radioactive material.’⁶⁰ No mention of naturally generated events, including epidemic outbreaks, can be found.

3.4. Final remarks

Since its creation NATO has adapted successfully to a rapidly changing international security environment. It has been able to pass from a deterrence and defence posture against massive attacks coming from the adversaries of the cold war period to an organization concerned with broader threats, also linked to the easy availability of CBRN material coming from non-state actors. Indeed, well before the 9/11 attacks the Alliance had already identified terrorist acts as the new security threat.

The attacks at the Twin Towers and the use of bacillus anthrax for terrorist purposes urged NATO to make a radical shift in its strategic policy, further broadening the scope of threats against which the Alliance was ready to respond from an armed conflict scenario to a peace situation, where single individuals were able to attempt at the life of either NATO armed forces or territory or population at large by employing easily manufacturable harmful substance.

Nonetheless, also the last *Alliance Strategic Concept* (2010) maintains a traditional stand: on the one hand, attention is kept on state use of WMD, on the other, focus is made on the employ of CBRN material by state and non-state actors alike also in peacetime, predominantly from terrorists.

⁶⁰ Nato Standard AMedP-7.6, Commander's Guide on Medical Support to Chemical, Biological, Radiological, and Nuclear (Cbrn) Defensive Operations, February 2018, par. 1.

Despite some recent opening to the threat to health coming from natural agents, such as viruses, deprived of any human intervention in their dispersion, the Alliance stays centred on security rather than safety concerns. As recently declared by NATO Foreign Ministers during the COVID-19 pandemic: ‘Even as we do the absolute maximum to contain and then overcome this challenge [the COVID-19 pandemic], NATO remains active, focused and ready to perform its core tasks: collective defence, crisis management, and cooperative security.’⁶¹

4. European Union

4.1 Introduction

As a key actor at the regional and global level, the EU has so far adopted numerous legal instruments to cope with chemical, biological, radiological and nuclear events. The importance of considering the EU framework regarding CBRN events at this stage cannot be underestimated. *First*, as a *sui generis* international organization the EU is endowed with competencies in fields relevant for CBRN events; *second*, many relevant EU instruments are not only legally binding on Member States (hereinafter: MS), but also suitable for producing direct effects within their domestic legal orders; *third*, the institutional framework of the EU has so evolved that numerous mechanisms and agencies exist that ensure cooperation among MS with regard to events qualifying as CBRN.

4.2 EU Instruments dealing with chemical, biological and radio-nuclear substances

The EU’s interest in CBRN events as a major threat to public security and health arose in the first years of the present century, in the aftermath of the terrorists attacks of 9/11 and the Anthrax letters of 2001 in the US.⁶² Well before this date, the EU had already adopted legal instruments (Regulations, Directives, Decisions, and others) to tackle the issue of incidents involving the release and the spread of CBRN agents (for instance, after the 1976 Seveso chemical disaster or the 1978 accident of the oil tanker *Amoco Cadiz* near the French coast, or again after the 1986 nuclear disaster in Chernobyl), yet without employing the ‘CBRN’ label. Adopted decades ago, these instruments have been gradually amended, repealed and replaced in order to strengthen them.

⁶¹ See text available at https://www.nato.int/cps/en/natohq/official_texts_174855.htm, par. 2. Check also Commander’s guide on medical support to chemical, biological, radiological, and nuclear (cbmn) defensive operations, amedp-7.6, February 2018 and E. Gursky, Is NATO ready for an influenza pandemic?, in NATO Review, 1 October 2007, available at <https://www.nato.int/docu/review/articles/2007/10/01/analysis-is-nato-ready-for-an-influenza-pandemic/index.html>.

⁶² The EU as an Actor in CBRNE Crisis: A General Picture, p. 19.

As for chemical substances, the EU (then European Community) has accepted the 1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade via Council Decision 2006/730/EC⁶³; it has adopted specific instruments such as the REACH Regulation⁶⁴, the CLP Regulation⁶⁵, the Seveso Directives⁶⁶, and also established a regulation on the import and export of hazardous chemicals⁶⁷. The European Chemicals Agency (ECHA), founded in 2007, was created in order to, *inter alia*, facilitate private actors' compliance with the instruments above. The same goes for biological substances: amongst the other, important instruments have been adopted not only to enhance cooperation between MS⁶⁸, but also risk management in case of cross-border threats to health resulting from the release of biological agents⁶⁹. The European Centre for Disease Prevention and Control (ECDC)⁷⁰, which is now playing a key role in managing the Covid-19 emergency, has been established for the purpose of strengthening Europe's defences against infectious diseases resulting from the spread of biological agents. Coming then to radiological and nuclear substances, in addition to several IAEA conventions, the EU has adopted specific instruments dealing with the shipment of radioactive substances among MS⁷¹, with the exposure of workers and the public to high-activity sources⁷², and other aspects associated therewith⁷³.

⁶³ Council Decision 2006/730/EC on the conclusion, on behalf of the European Community, of the Rotterdam Convention on the Prior Informed Consent Procedure for certain hazardous chemicals and pesticides in international trade.

⁶⁴ Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

⁶⁵ Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

⁶⁶ Council Directive 82/501/EEC; Council Directive 96/82/EC; Directive 2012/18/EU of the European Parliament and the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC.

⁶⁷ Regulation (EU) No 649/2012 of the European Parliament and the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

⁶⁸ Commission Decision 2000/96/EC of 22 December 1999 on the communicable diseases to be progressively covered by the Community network under Decision No 2119/98/EC of the European Parliament and of the Council.

⁶⁹ Decision No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC.

⁷⁰ Regulation (EC) No 851/2004.

⁷¹ Council Regulation (Euratom) No. 1493/93 of 8 June 1993 on shipments of radioactive substances between Member States.

⁷² Council Directive 2003/122/Euratom of 22 December 2003 on the control of high-activity sealed radioactive sources and orphan sources.

⁷³ Commission Regulation (Euratom) No 302/2005 of 8 February 2005 on the application of Euratom safeguards; Council Directive 2006/117/Euratom of 20 November 2006 on the supervision and control of shipments of radioactive waste and spent fuel; Commission Decision 2008/312/Euratom of 5 March 2008 establishing the Standard Document for the Supervision and Control of Shipments of Radioactive Waste and Spent Fuel Referred to in Council Directive 2006/117/Euratom; Council Regulation (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control

In sum, the number and the diversity of such instruments make it extremely difficult to insulate an *unitary* category of CBRN ‘events’, ‘agents’ and ‘actors’ involved (see Table in **Annex 1** for a tentative analysis of these instruments). They can be appraised under a rather *fragmented* approach, which however still exists today and is suitable for interacting with specific CBRN instruments.

4.3 EU Instruments dealing with CBRN ‘agents’, ‘events’ and ‘actors’

The EU’s action in the specific field of CBRN events can be traced back to the 2003 European Security Strategy (ESS), which identifies major challenges that are to be faced through ‘effective multilateralism’, among which ‘weapons of mass destruction (WMD) proliferation’⁷⁴. It was however thanks to the adoption of *ad hoc* Action Plans that the EU has started to devote attention to the issue of CBRN threats identified as such⁷⁵. As a matter of fact, the EU Action Plans show that the EU has resolutely adopted an all-hazard approach: while often narrowing down the focus to terrorist threats and thus intentional release of CBRN agents, the need is stressed for significant investments by MS to reinforce resilience against CBRN events of quite different kinds (including large scale hazards unconnected to terrorism). This comprehensive approach is somehow availed by the CBRN Centre of Excellence (CoE) Initiative, established in 2010 as a cooperative, bottom-up and voluntary mechanism with a view to developing global capacity for CBRN risk mitigation⁷⁶.

Globally considered, the EU approach to CBRN-related issues is multi-faceted. Starting with the definition of substances, the acronym CBRN works as a label that include ‘materials’ or ‘agents’ showing distinct and diverse nature, origin, and properties, in addition to the type of injury and illness they produce.⁷⁷ EU CBRN-related instruments refer to ‘materials’ and ‘agents’ interchangeably, thus for our purposes and for the sake of clarity the term ‘agent’ will be employed.⁷⁸ As a matter of fact, this choice is apt for our analysis as the term ‘agent’ both neutral, in that it covers different types of materials, substances, preparations, sources and sufficiently open-textured, in that technological

of exports, transfers, brokering and transit of dual-use items and technology; Council Directive 2009/71/Euratom of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations.

⁷⁴ Council of the European Union, A secure Europe in a better world: European security strategy, Brussels 12 December 2003; Report on the implementation of the European security strategy – Providing security in a changing world, Brussels 2008; New lines for action by the European Union in combating the proliferation of weapons of mass destruction and their delivery systems, annex to council conclusions, Brussels, 17 December 2008.

⁷⁵ [Action Plan](#), COM(2017) 610 final, adopted 18 October 2017; [2010-2015 EU CBRN Action Plan](#).

⁷⁶ Martellini and Trapp (eds), *21st Century Prometheus. Managing CBRN Safety and Security Affected by Cutting-Edge Technologies*, 2020, p. 10.

⁷⁷ International Committee of the Red Cross (ICRC), *Chemical, Biological, Radiological and Nuclear Response. Introductory Guidance. For training purposes only*, Geneva, 2014.

⁷⁸ See Action Plan to enhance preparedness against chemical, biological, radiological and nuclear security risks, COM(2017) 610 final, adopted 18 October 2017.

advancements in producing new materials, substances, preparations and sources could be easily included in the term above.

Turning to the term ‘events’, a more complex analysis is due. In EU relevant instruments, it is common to employ this expression with a view to including any action or occurrence that may lead to the release and thus the spread of CBRN agents ‘in quantities and in circumstances that put individuals or groups at significant risk’, in the words of the 2017 Action Plan.⁷⁹ As has been argued above, in recent years the EU institutions’ focus has been mostly on CBRN events resulting from intentional release of CBRN agents. Numerous EU legal instruments deal with CBRN events with reference to non-proliferation issues and weapons of mass destruction (WMD) regulation, in addition to terrorist threats – hence they refer to ‘events’ mostly in terms of ‘attacks’, which posits a deliberate action by human individual or groups.⁸⁰

To get a glimpse of this trend, one may consider: (a) the 2017 Action Plan, whose very beginning reads: ‘*The EU is currently facing a range of terrorist threats and attacks of a violent nature, from both networked groups and lone actors*’⁸¹, thus calling for increased cooperation between MS; (b) the ESS, which tackles CBRN events through the lens of the proliferation of weapons of mass destruction, and considers that ‘*The most frightening scenario is one in which terrorist groups acquire weapons of mass destruction*’⁸²; (c) other instruments adopted to counter WMD, such as Council Regulation No 428/2009⁸³.

However, the spectrum of CBRN events is wider. Other EU legal instruments adopt a definition of CBRN events that is suitable for including also non-intentional release of CBRN agents, such as: (a) the 2009 Action Plan, which adopted an ‘*all-hazard approach, including terrorists threats*’ (and thus not limited thereto); (b) Regulation No 230/2014, which established the Instrument contributing to Stability and Peace (IcSP) funds and whose Art 5 establishes that the EU will provide technical and financial assistance for mitigation and preparedness ‘*against risks, whether of an intentional, accidental or natural origin, related to chemical, biological, radiological and nuclear materials or agents*’;⁸⁴ (c) [Decision 2019/420](#) amending Decision No 1313/2013/EU on a Union Civil

⁷⁹ Ibidem, p. 10.

⁸⁰ See for instance Policy Department for Citizens’ Rights and Constitutional Affairs, [Member States’ Preparedness for CBRN Threats](#), 2018.

⁸¹ Action Plan to enhance preparedness against chemical, biological, radiological and nuclear security risks, COM(2017) 610 final, adopted 18 October 2017.

⁸² ESS, cit, p. 31.

⁸³ Council Regulation (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

⁸⁴ Regulation (EU) No 230/2014 of the European parliament and of the Council of 11 March 2014 establishing an instrument contributing to stability and peace. The establishment of EU CBRN “Centres of Excellence Initiative” is a landmark step towards the mitigation of the risks of CBRN events. Importantly, this Initiative is funded through the Instrument with a budget of 130 million Euros, which makes it the EU’s largest civilian external security program

Protection Mechanism, whose art 12 rules the so-called ‘rescEU’ mechanism and establishes that it will take into account ‘*identified and emerging risks ... in particular in the areas of ... chemical, biological, radiological and nuclear incidents*’⁸⁵. In this line, one may consider the EU’s action in the field of health security. Albeit remaining mostly under MS’ responsibility, the EU’s competencies being limited only to complementing national policies, coordinating MS’ actions and ensuring appropriate exchange of data, health security deals with CBRN events also of accidental or natural origin. Mention can also be made to the EU Civil Protection Mechanism (EUCPM), which is intended to provide assistance, relief and protection to victims of natural and man-made disaster as well as coordinate and support MS’ actions. In both fields, CBRN events are considered from an all-hazard perspective, therefore including also natural and accidental release of CBRN agents.

Moving now to CBRN ‘actors’, preliminarily it must be observed that the term may refer to any entity – either natural or legal, either state or non-state – standing as an addressee of relevant legal obligations. For example, international law prohibits state actors from using of CBRN weapons in armed conflict and law-enforcement scenarios, and it prohibits non-state groups from acquiring and using weapons of mass destruction capable of causing CBRN events (‘negative’ obligations). Equally, it requires States to prevent the occurrence of CBRN events and to punish those who are found to be responsible for them (‘positive’ obligations”). The same holds for EU law. The instruments analyzed above focus mostly on non-state actors (as terrorist groups) as addressees of negative obligations, and thus urge EU institutions and MS to take all necessary measures to deal with CBRN events (within both an *ex ante* and *ex post* perspective) and with those who make it possible for them to occur. As for the term ‘agent’, ‘actor’ seems neutral and open-textured enough to include a broad range of entities whose activity is connected with CBRN events.

4.4 Concluding Remarks: Time for Zooming in on other types of CBRN ‘events’?

The sections above have demonstrated that while the EU has endorsed an all-hazard approach to CBRN events, most CBRN-dedicated instruments devote their attention to events consisting in the intentional release of CBRN agents, mainly as a result of terrorist or criminal activity. However, considering that different mechanisms (such as the EUCPM and the CBRN CoE) have been adopted that aim at managing the risks and consequences of CBRN events of any origin, interactions and possible overlaps of EU instruments (both hard-law and soft-law; both dealing with CBRN events

financed by the EU. See the [Special Report](#) *The EU Chemical, Biological, Radiological and Nuclear Centres of Excellence: more progress needed*, 2018.

⁸⁵ Decision (EU) 2019/420 of the European parliament and of the Council of 13 March 2019 amending Decision No 1313/2013/EU on a Union Civil Protection Mechanism.

explicitly and in a fragmented fashion) are possible, when it comes to events involving the non-intentional release of CBRN agents.

The fact that terrorist threats have been traditionally perceived as a priority, both due to their high potential of destructiveness and by reason of troubling precedents (eg 9/11 or the Paris attacks of 2015) does not imply that in today's circumstances focus cannot be modified so as to allow for zooming in on other types of CBRN events. A change is inevitable and, to some extent, would be justified by the need for responding to pressing societal demands. Moreover, to a limited extent such change has already taken place. For instance, in 2012 the Council asked the Commission to develop a more targeted approach on 'Explosives', in addition to CBRN agents – therefore expanding the focus to 'CBRN-E' events.⁸⁶

In conclusion, taking into account some current contingencies (the already mentioned SARS-COV-2 crisis, to which one may also add the incident occurred to the Cathedral of Notre Dame in Paris in 2019), it is open to question whether - and, if yes, to what extent - the EU instruments mentioned in this Section provide MS with any regulatory guidance in cases of accidental and natural release of agents amounting to CBRN events as described above.

5. OSCE

The first approach of the OSCE to CBRN risks dates back to the nineties, when this Organization adopted the well-known 1994 OSCE Principles Governing Non Proliferation (The Principles)⁸⁷. The Principles, whose main purpose is to fight against non-conventional weapons, neither provide a definition of CBRN, nor even employ the acronym. The legal basis of the Principles are the commitments of the Participating States to the fight against weapons of mass destruction and to maintain the security in the OSCE area. For this reason, the document refers specifically to weapons, without reference to wider forms of threats. Moreover, it refers separately, on the one side, to the Nuclear weapons and, on the other side, to Chemical and Biological weapons, without mentioning the new category of Radiological threats. The primary objective of the Principles is to call the OSCE participating States to enhance and strengthen the *existing* norms against the proliferation of weapons of mass destruction. Hence, they do not intend to add to the existing

⁸⁶ As for the EU, see Commission Decision 2010/347 (on an Intra-Community transfer of explosive document); Directive 2014/28/EU (on the harmonization of the laws of the Member States relating to the making available on the market and supervision of explosives for civil uses) and the subsequent EU Action Plan on Enhancing the Security of Explosives; Regulation No 98/2013 (on the marketing and use of explosive precursors).

⁸⁷ OSCE, Principles Governing Non Proliferation (1994), <https://www.osce.org/it/fsc/41406>.

international framework in the field of non-proliferation, so that they imply the same definition of Nuclear, Chemical and Biological weapons incorporated in the international agreements and documents mentioned therein.

The OSCE Participating States updated the Principles in 2013, by adopting the Decision No. 7/13⁸⁸. By this Decision, the participating States reinforced their opinion that the proliferation of nuclear, chemical and biological weapons and their means of delivery constitutes a threat to international peace, security and stability and reaffirmed their commitment to prevent proliferation in all its aspects of nuclear, chemical or biological weapons and their means of delivery. While the general approach of the Decision basically reflects that of the Principles, the latter makes reference to a wider and updated set of international norms which are relevant for the fight against CBN threats. Hence, such norms constitute now the point of reference for the applicable conceptualization of CBN threats.

After the adoption of the UN Security Council Resolution 1540 (2004), the OSCE elaborated its approach to CBRN threats, by aligning its mission to that of the UN in the fight against terrorism. In particular, the OSCE has assumed the role of facilitator for the implementation of the United Nations Security Council resolution 1540 and that of national contact point of participating States to this aim. In this regard, key documents are Decisions No. 7/05 and 4/15 where the Participating States defined the OSCE's role in support of the Security Council Resolution 1540 (2004)⁸⁹. In particular, they specify that scope of the OSCE's support in facilitating the implementation of resolution 1540, including the commitment of the Conflict Prevention Centre to provide continuous and effective assistance to participating States, upon their request, in preparing national implementation measures. Lastly, in the Commemorative Declaration on the occasion of the twenty-fifth anniversary of the OSCE Principles, the Participating States recalled the UN resolutions 1540 (2004) and its successor resolutions 1977 (2011) and 2325 (2016) which called upon all States to take effective measures to prevent the proliferation of nuclear, chemical or biological weapons and their means of delivery⁹⁰. As a result, the current OSCE approach is closely connected to the UN strategy against CBRN threats, which is mainly grounded in the fight against terrorism. Correspondingly, even the definitional approach follows that of the UN.

⁸⁸ OSCE, Update of the OSCE Principles Governing Non Proliferation, FSC.DEC/7/13, 4 December 2013, <https://www.osce.org/fsc/109245?download=true>

⁸⁹ OSCE, Decision No. 7/05 Supporting the Effective Implementation of United Nations Security Council Resolution 1540 (2004), 30 November 2005, <https://www.osce.org/fsc/17396?download=true>; Decision No. 4/15 OSCE's Role in Support of United Nations Security Council Resolution 1540 (2004), 22 July 2015, <https://www.osce.org/fsc/175471?download=true>.

⁹⁰ OSCE, Commemorative Declaration on the occasion of the twenty-fifth anniversary of the OSCE Principles, 29 January 2020, <https://www.osce.org/it/ministerial-councils/444988>.

While the acronym CBRN has not been mentioned in the OSCE official acts, it has instead been employed in the OSCE police training counterterrorism programme⁹¹. In this respect, it is worth noting that the education materials prepared for the training address 4 types of threats. First, the Bio threats, which refer to the producing of pathogens (bacteria, viruses or toxins) and their dissemination them, contaminating food chain and water circuits, contaminating animals, insects or human beings. Second, the Chemical threats, which are defined as the dissemination of choking agents (e.g. chlorine), vesicant agents, neurotoxins, using war chemical agents or chemical industry made agents. Third, the Radiological threats, which are threats stemming from all sort of radiation that may derive from conventional explosives and radioactive elements. Lastly, the Nuclear threats, which differ from the Radiological one because the former derive from nuclear reactions only.

In conclusion, in the context of the OSCE, the use of the acronym CBRN is linked to the security mission of the Organization and, in particular, to the fight against weapons of mass destruction with a more recent focus on the fight against international terrorism.

6. Selected National approaches

A wider concept of CBRN threats has been adopted by some European States and by the US.

In Germany, the Federal Office of Civil Protection and Disaster Assistance has the competence of the so-called CBRN-Protection⁹². CBRN-threats are defined as the protection against the impact of Chemical, Biological as well as Radiological and Nuclear threats. The division between radiological (R) and nuclear (N) threats describes the various types of release of a radioactive contamination. While the term “Nuclear” refers to explosions caused by nuclear weapons and their repercussions as well as radioactive substances of the nuclear cycle, “Radiological” to the further types of release, above all as a radioactive dispersion deriving from a radioactive dispersion device (e.g.: “dirty bomb”). More importantly, the information published on the official website of the competent German national authority clarifies that CBRN incidents can either be caused by deliberate acts or due to an accident, for example during transport. Furthermore, the relevant definition emphasises a kind of “effect-centric” approach. Indeed, as the explanation stresses, the causes for the release of hazardous CBRN-substances are not important, while the attention should be placed on the need to protect the population.

⁹¹ The relevant information are available here: <https://polis.osce.org/chemical-biological-radiological-nuclear-and-explosive-cbrne-materials>

⁹² Federal Office of Civil Protection and Disaster Assistance of Germany, Official website https://www.bbk.bund.de/EN/Topics/CBRNProtection/cbrnprotection_node.html

A similar approach may be found in the definition adopted by Federal Office for the Civil Protection of Switzerland⁹³, which define the CBRN threats as including both accidental and intentional events.

Moreover the definition adopted by Switzerland suggests the opportunity to adopt the extended acronym CBRNN, instead of CBRN, in order to include “Narcotics”. Indeed, the employment of narcotics, including psychopharmaceuticals such as fentanyl, are defined as “non-lethal chemical weapons” which currently constitute increasing threats.

Significant elements may be also drawn from the practice of the UK. In particular, the Home Office Guidance for Local Authorities published, in 2003, the Strategic National Guidance on the Decontamination of People⁹⁴. In this document, the term CBRN is used to describe the whole range of incidents that can occur as a result of a release of chemical, biological, or radiological material. One of the principal purposes of this document is to give local authorities an overview of the multi-agency response to a deliberate release of chemical and biological agents in the United Kingdom. Indeed, the focus of the first edition of this Guide, published in October 2001, was the release of CBRN material by terrorists. Interestingly, the novel edition of the guidance considers that “accidental releases, outbreaks of serious communicable diseases, contamination from overseas incidents, even domestic spillages or leakages can produce equally severe consequences to manage and from which to recover. The measures required to deal with the consequences of any crisis featuring the accidental release of toxic substances or a major infectious disease outbreak would be similar to those required for a deliberate release. It is therefore appropriate to have a generic plan that can be adapted to any credible scenario”. Hence, even the UK approach is mainly focused on the effects rather than on the causes of CBRN threats. It applies a wide conceptualisation of CBRN threats as including both deliberate and accidental natural or man-made incidents to which a general management plan can be applied.

Finally, the approach of the US to CBRN threats stems from the doctrine for military response to minimize the effects of a CBRN incident⁹⁵. This doctrine establishes the rules and procedures to be followed by the military authorities to respond to a CBRN event. According to this doctrine, a CBRN event, actually qualified as “incident”, includes “any occurrence resulting from the use of CBRN weapons and devices; the emergence of secondary hazards arising from counterforce targeting; or the release of toxic industrial materials (TIMs) into the environment, involving the

⁹³ Federal Office for the Civil Protection of Switzerland, Official website <https://www.babs.admin.ch/it/aufgabenbabs/abcschutz.html>

⁹⁴ UK Office Guidance for Local Authorities (2003), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/62229/localauthority-cbrn-guidance.pdf

⁹⁵ https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_41.pdf

emergence of CBRN hazards”. Furthermore, the doctrine stresses that some CBRN incidents occurring on foreign soil might require the “international military assistance of the US”. The latter has been defined as the assistance provided to an impacted nation to respond to “the effects of a deliberate or inadvertent CBRN incident on foreign territory”. This conceptualization of CBRN incidents on foreign soil includes both the deliberate and accidental release of CBRN materials and again focuses on the effects rather than on the causes.

Moreover, this doctrine specifies the border between CBRN incidents and disasters, with relevant consequences in terms of applicable legal framework. In particular, all those incidents that do not involve CBRN materials may be labelled as disasters. Accordingly, the relative response should be conducted under the foreign disaster relief operations, which has a separate legal qualification⁹⁶.

In conclusion, the national practices here considered share a consistent definitional approach to CBRN events, according to which a similar intervention strategy can be applied to react against both deliberate and accidental release of CBRN material, as what is important is to effectively protect the population against the similar severe consequences of such incidents.

7. General Conclusion: A Way Forward

Drawing some conclusions, the definitional effort put forward in this paper has managed to highlight some ‘lights and shadows’ associated with international and EU instruments that deal with CBRN ‘agents’, ‘events’ and ‘actors’. The diversity of approaches to the issue - depending much on the institutional architecture and the statutory prerogatives of the particular International Organization under scrutiny - has made it clear that while the label CBRN was first adopted in the field of counter-terrorism and, more at large, in the field of the intentional release of CBRN ‘agents’ (thus having in mind a precise category of ‘events’ and ‘actors’ involved therein), it has also been used with respect to accidental or natural ‘events’, thus addressing different ‘actors’ that may play a role at several stages of the risk-management cycles. While the terrorist threat is still material today, non-intentional CBRN ‘events’ are gaining momentum in the current debate on risk management, as a consequence of the SARS-Cov-2 pandemic outbreak. In other words, the spotlight seems to be on a category of events that the debate on CBRN-related issues has touched upon only to a limited extent. The present

⁹⁶ See also <https://www.dhs.gov/national-strategy-chemical-biological-radiological-nuclear-and-explosives-cbrne-standards>

research may want to devote attention also to such field, with a view to testing the scope and thus the boundaries of existing international and EU rules.

Annex I

	EU Instrument	"Agent"	"Event"	"Actor(s)"	Main Obligations
CHEMICAL	Rotterdam Convention on the prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (PIC Convention) as per Council Decision 2006/730/EC	Art. 2: (a) chemical; (b) "banned chemical"; (c) "severely restricted chemical"; (d) "severely hazardous pesticide formulation"	man-made; accidental	States and IOs Party to PIC	Inform the Secretariat
	REACH Regulation (No 1907/2006) concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals	Art 3: "substance"; "preparation"; "article"; "polymer"; "monomer"	man-made; accidental	"manufacturer", "importer", "downstream user", "distributor", etc.	Register, notify and inform (the Agency)
	CLP Regulation (No 1272/2008) on Classification, Labelling and Packaging of substances and mixtures (amended nine times)	Art 2: "substance", "mixture", etc.	man-made; accidental	"manufacturer", "importer", "downstream user", "distributor", "supplier", etc.	Classification and Labelling (consistent to the UN Globally Harmonised System of Classification and Labelling of Chemicals - GHS)

	<p>Seveso Directive III (No 2012/18/EU on the control of major-accident hazards involving dangerous substances)</p>	<p>Art 3: "dangerous substance", "mixture"</p>	<p>Art 3 n 13: "major accident", that is "an occurrence such as major emission, fire, or explosion resulting from uncontrolled developments ... leading to danger to human health or the environment, immediate or delayed..."</p>	<p>Art 3 n 9: "operators", but also Member States</p>	<p>Art 5: "take all necessary measures to prevent major accidents and to limit their consequences"; Art 6: Member States shall set up or appoint the "competent authority"; Art 7 "notification"; Art 8 "major-accident prevention policy", etc.</p>
BIOLOGICAL	<p>Decision No 2119/98/EC setting up a network for the epidemiological surveillance and control of communicable diseases in the Community (today repealed by Decision No 1082/2013/EU)</p>	<p>None</p>	<p>natural? (diseases)</p>	<p>Member States / Community network / Commission</p>	<p>Information, Consultation, Coordination</p>
	<p>Commission Decision of 22 December 1999 on the communicable diseases to be progressively covered by the Community network (amended four times)</p>	<p>Art 1: "communicable diseases and special health issues"; reference to list contained in Annex I (Annex II establishing criteria for inclusion)</p>	<p>natural?</p>	<p>Member States</p>	<p>Dissemination in the Community network</p>

	Decision 1082/2012/EU on serious cross-border threats to health	Art 2: (a) "threats of biological origin"; (b) "threats of chemical origin"; (c) "threats of environmental origin"; (d) "threats of unknown origin"	natural, man-made (wide)	Member States	Epidemiological surveillance, monitoring, contact tracing: preparedness and response planning (art 4)
RADIOLOGICAL / NUCLEAR	Council Decision 87/600/Euratom on arrangements for the early exchange of information in the event of a radiological emergency	None (art 1: "radiological emergency")	accidental	Member States	notification and provision of information
	Council Regulation (EURATOM) No 1493/93 on shipments of radioactive substances between Member States	"sealed source", "radioactive waste", "nuclear materials" (as per art 197 EAEC Treaty)	accidental (associated with "shipment")	Member States ("competent authorities"), "holder of radioactive substances", "consignee of radioactive substances"	prior declaration and post-shipment information procedure

	<p>Council Directive 2013/59/Euratom laying down basic safety standards (BSS) for protection against the dangers arising from exposure to ionising radiation</p>	<p>"radioactive material", "radioactive source", "radioactive substance", "radioactive waste" (art 4 nn 75 ff)</p>	accidental	Member States	Protecting workers from exposure
	<p>Council Regulation (EURATOM) 2016/52 laying down maximum permitted levels of radioactive contamination of food and feed following a nuclear accident or any other case of radiological emergency</p>	<p>"radiological emergency"</p>	accidental (wide)	Commission / Member States	reporting and implementing restrictive measures
	<p>Commission Regulation (Euratom) No 302/2005 on the application of Euratom safeguards (amended by Regulation 519/2013 by reason of the accession of Croatia)</p>	<p>"nuclear materials", "waste", "retained waste", "conditioned waste", etc (art 2)</p>	?	"any person or undertaking setting up or operating an installation" (art 3) / Member States / Commission	declaration to the Commission

	<p>Council Directive 2006/117/Euratom on the supervision and control of shipments of radioactive waste and spent fuel (implemented by Commission Decision of 5 March 2008)</p>	"radioactive waste", "spent fuel"	accidental, man-made	Member States, "holder", "consignee"	application for authorization, provision of information
	<p>Council Regulation No 428/2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items</p>	"dual-use items ... assisting in any way in the manufacture of nuclear weapons or other nuclear explosive devices"	associated with export	Member States, "exporter", "broker"	authorization
	<p>Council Directive 2009/71/Euratom establishing a Community framework for the nuclear safety of nuclear installation</p>	None	"accident", "incident", "abnormal operations"	Member States ("competent regulatory authority"), "licence holder"	setting up a legislative, regulatory and organizational framework, preparedness and response, periodic safety reviews, reporting, ect.