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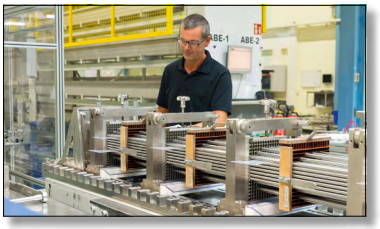

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The OECD is a unique forum where the governments of 38 democracies work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

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The mission of the NEA is:

- to assist its member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for a safe, environmentally sound and economical use of nuclear energy for peaceful purposes;
- to provide authoritative assessments and to forge common understandings on key issues as input to government decisions on nuclear energy policy and to broader OECD analyses in areas such as energy and the sustainable development of low-carbon economies.

Specific areas of competence of the NEA include the safety and regulation of nuclear activities, radioactive waste management, radiological protection, nuclear science, economic and technical analyses of the nuclear fuel cycle, nuclear law and liability, and public information. The NEA Data Bank provides nuclear data and computer program services for participating countries.

Also available in French under the title:
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The information submitted to the NEA by these individuals represents the opinions of the authors alone and does not purport to represent the official views or the policies of their governments or of any other entity.

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BOOK REVIEWS

Recognition and enforcement of foreign judgments on civil liability for nuclear damage

*by Ulrich Magnus**

I. Introduction

Viewed from a general, global perspective, the recognition and enforcement of foreign judgments is not the rule. On the contrary, it generally requires a specific legal basis and justification that a country accepts the rulings of courts of other states and treats them like its own decisions. The main basis for such treatment is most often an international treaty or a supranational instrument (like, for instance, the Brussels Ibis Regulation[1] or the revised Lugano Convention of 2007[2]) that provides for the mutual acceptance of foreign court decisions among the states adhering to the respective instrument. In the absence of a specific bilateral or multilateral treaty or supranational instrument, the states autonomously formulate the conditions under which they recognise and enforce foreign judgments. In this respect, some countries follow a more generous, others a more restrictive, course. But, countries do not recognise foreign judgments without preconditions;[3] every country provides for a certain type of control. Some, for instance, adhere to the principle of reciprocity. These countries recognise and enforce judgments of other countries only if the other country recognises and enforces their decisions. It is also not uncommon that there is no basis for

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1. Regulation (EU) No. 1215/2912 of the European Parliament and of the Council of 12 December 2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (recast), *Official Journal of the European Union* (OJ) L 351/1 (20 Dec. 2012). The Regulation has been in force in all current European Union (EU) member states since 10 January 2015. Denmark adopted the Regulation through special agreement with the EU. See Magnus, U. in Magnus, U. and P. Mankowski (eds.) (2016), *Brussels Ibis Regulation: Commentary*, Verlag Dr. Otto Schmidt KG, Cologne, Germany, Introduction, para. 54. The Regulation was also applicable in the United Kingdom with respect to judgments rendered until 31 December 2020.
2. Lugano Convention on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters, OJ L 147/5 (10 June 2009). The Convention is applicable in all EU member states (also separately ratified by Denmark) and in Iceland, Norway and Switzerland. It was in force until 31 December 2020 in the United Kingdom as well. The United Kingdom applied for membership of the Lugano Convention of 2007. However, the EU has refused this application thus far. See Wagner, R. (2021), "*Aktuelle Entwicklungen in der justiziellen Zusammenarbeit in Zivilsachen*" [Current Developments in Judicial Co-operation in Civil Matters], *Neue Juristische Wochenschrift* (NJW) [New Legal Weekly], Issue 27, C.H. Beck, Munich, pp. 1926-1932, at 1928.
3. See Martiny, D. in Max-Planck-Institut für ausländisches und internationales Privatrecht (ed.) (1984), *Handbuch des Internationalen Zivilverfahrensrechts*, Vol. III/1, J.C.B. Mohr, Tübingen, p. 117 et seq.

recognition and enforcement at all, such that judgments rendered in one country have no legal effect in another country.[4]

The following article examines to what extent foreign judgments are recognised and enforced in the field of civil liability for nuclear damage.

II. Recognition and enforcement of foreign judgments under the nuclear liability conventions

1. Survey

The field of civil liability for nuclear damage is characterised by the well-known rivalry between the Paris Convention[5] and the Vienna Convention.[6] Both conventions were amended by a number of protocols,[7] which, however, were not always adopted by all the contracting states of the respective original convention. The two conventions are further supplemented by additional conventions that aim at improving compensation for nuclear damage.[8] The various instruments constitute two rival systems on nuclear liability. Although their general structures are almost identical, many differences in detail remain.

This last observation is also true with respect to the recognition and enforcement of foreign judgments. Both the Paris and Vienna Conventions contain provisions that regulate the enforcement of foreign judgments. In principle, these provisions allow for the enforcement – and incidentally for the recognition – of judgments among the contracting states of each convention, although with differences.

The gap between the two differing convention regimes was intended to be bridged by the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention of 1988 (Joint Protocol).[9] Concerning the enforcement of foreign judgments, the

4. For a worldwide though older survey of all states and the conditions under which they recognise and enforce foreign judgments, see Martiny, D. in *Handbuch*, *supra* note 3, p. 580 et seq. For a recent survey over a number of states see Browne, O. and T. Watret (eds.) (2020), *Enforcement of Foreign Judgments 2021*, Law Business Research Ltd, London.
5. Convention on Third Party Liability in the Field of Nuclear Energy of 29th July 1960, as amended by the Additional Protocol of 28th January 1964 and by the Protocol of 16th November 1982 (1960), 1519 UNTS 329 (Paris Convention).
6. Vienna Convention on Civil Liability for Nuclear Damage (1963), IAEA Doc. INFCIRC/500, 1063 UNTS 266, entered into force 12 Nov. 1977 (Vienna Convention).
7. The Paris Convention was amended by Protocols of 1964, 1982 and 2004. The 2004 Protocol to amend the Paris Convention has not yet entered into force. Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as amended by the Additional Protocol of 28 January 1964, by the Protocol of 16 November 1982, and by the Protocol of 12 February 2004 (not yet in force), an unofficial consolidated text is available at: NEA (2017), "Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as amended by the Additional Protocol of 28 January 1964, by the Protocol of 16 November 1982 and by the Protocol of 12 February 2004", NEA Doc. NEA/NLC/DOC(2017)5/FINAL (Revised Paris Convention). The Vienna Convention was amended by a Protocol of 1997 (Protocol to Amend the 1963 Vienna Convention on Civil Liability for Nuclear Damage (1997), IAEA Doc. INFCIRC/566, 2241 UNTS 302, entered into force 4 Oct. 2003 (1997 Protocol)). The Vienna Convention also has an Optional Protocol (Optional Protocol Concerning the Compulsory Settlement of Disputes (1963), IAEA Doc. INFCIRC/500/Add.3, entered into force 13 May 1999).
8. Convention of 31st January 1963 Supplementary to the Paris Convention of 29th July 1960, as amended by the Additional Protocol of 28th January 1964 and by the Protocol of 16th November 1982 (1963), 1041 UNTS 358 (Brussels Supplementary Convention); Convention on Supplementary Compensation for Nuclear Damage (1997), IAEA Doc. INFCIRC/567, 36 ILM 1473, entered into force 15 Apr. 2015 (CSC).
9. Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention (1988), IAEA Doc. INFCIRC/402, 1672 UNTS 293, entered into force 27 Apr. 1992 (Joint Protocol).

Joint Protocol extends the enforcement possibility to the contracting states of the respective other convention. However, due to the meagre ratification success of the Joint Protocol, its bridging effect is limited.

For this reason, and since the nuclear liability conventions do not cover all states that may cause nuclear damage, and since nuclear damage may be suffered and adjudicated in countries without any nuclear installations, additional international instruments relating to the recognition and enforcement of foreign judgments must be taken into account. In Europe, this is addressed in the first line of the Brussels Ibis Regulation of 2012[10] and supplemented by the parallel Lugano Convention of 2007.[11] Like the nuclear liability conventions, the Brussels/Lugano regime provides that judgments rendered in member states are principally recognised in all other member states without any further procedure and can be enforced there in accordance with the procedures of that state. However, on certain grounds, the recognition and enforcement can be refused.

There still remain judgments rendered in third states outside the Paris/Vienna regime and the Brussels/Lugano regime. Such judgments ultimately fall under either other bilateral or multilateral treaties or, in the final instance, under the national rules of the state where recognition and enforcement is sought.

The following article addresses the regulation of the recognition and enforcement of judgments within the Paris/Vienna and the Brussels/Lugano regimes. A survey of the autonomous German law serves as an example of national regulation of this complex area of law.

2. Paris Convention

Article 13(d) of the Paris Convention and Article 13(i) of the Revised Paris Convention deal only with the enforcement of foreign judgments. However, the regulation implies that enforceable judgments are also to be recognised.[12] The Paris Convention as amended by the 1964 and 1982 Protocols is in force in all 15 contracting states,[13] whereas the 2004 Protocol is not yet in force.[14] Article 13(d) of the Paris Convention provides that judgments that have become enforceable in a contracting state shall be also enforceable in the other contracting states. The provision runs as follows:

> Judgments entered by the competent court under this Article after trial, or by default, shall, when they have become enforceable under the law applied by that court, become enforceable in the territory of any of the other Contracting Parties as soon as the formalities required by the Contracting Party concerned have been complied with. The merits of the case shall not be the subject of further proceedings. The foregoing provisions shall not apply to interim judgments.

10. See *supra*, note 1.
11. See *supra*, note 2.
12. Also Kreuzer, K. and R. Wagner, in Dauses, M.A. and M. Ludwigs (eds.) (2021), *Handbuch des EU-Wirtschaftsrechts*, C.H. Beck, Munich, Part Q., note 136.
13. The states parties are: Belgium, Denmark, Finland, France, Germany, Greece, Italy, the Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, Turkey and the United Kingdom. Switzerland has ratified the Paris Convention as amended by all three Protocols. The Paris Convention will enter into force in Switzerland only when the 2004 Protocol enters into force (see latest status of ratifications or accessions to the Paris Convention at NEA (n.d.), "Paris Convention: Latest status of ratifications or accession", www.oecd-nea.org/jcms/pl_31798 (accessed 6 Oct. 2021)).
14. The 2004 Protocol will enter "into force when ratified or confirmed by two-thirds of the Contracting Parties" (Part II(e) of the Protocol, which refers to Article 20 of the Paris Convention). Therefore at least 10 of the 15 contracting states must ratify the 2004 Protocol. Thus far, only one contracting state (Norway) has ratified the 2004 Protocol. Also, Switzerland has signed the 2004 Protocol and deposited its instrument of ratification, but did so with the reservation that it will become a contracting party only when the Protocol enters into force. Entry into force for the 2004 Protocol is expected on 1 January 2022.

a. Enforceable decision

A first requirement of Article 13(d) of the Paris Convention is that the foreign decisions must be "enforceable under the law applied by that court." "That court" is the court that rendered the judgment. Since this court usually applies its national procedural law, the judgment must be enforceable according to this law. It thus depends on the domestic law of the judgment state; thus, the judgment state's requirements for enforceability must be met. National law may, for instance, either require that no further appeal or review of the judgment is possible or that the judgment court has rendered a final decision that cannot be revisited by the judgment court.

Article 13(d) of the Paris Convention explicitly mentions default judgments and treats them equally with judgments rendered after contradictory proceedings.[15] Therefore, if the respective national law provides that – and when – default judgments are enforceable they can also be enforced in the other contracting states.

Article 13(d) of the Paris Convention further excludes "interim judgments" from enforceability under the Paris Convention. The French text, which is also authentic, speaks of "*jugements qui ne sont exécutoires que provisoirement*." Neither the Paris Convention nor the accompanying "Exposé des Motifs"[16] explains the formulation.[17] In the United Kingdom, the term describes a situation where a court decision deals only with part of the dispute, reserving a final decision on the entire matter (also known as "interlocutory judgment").[18] The French text is more in line with an interpretation that covers all decisions that are not final and enforceable, but rather declared enforceable on a solely provisional basis. Since the Paris Convention must be interpreted autonomously, it is likely that the term must be understood in the latter sense. This means that decisions remain unenforceable when the court rendering the decision has ordered only provisional enforceability. Also, paragraph 58 of the Exposé des Motifs supports this understanding when it speaks only of "final judgments" that may be enforceable. Therefore, even where national law regards provisional decisions as enforceable, they are not enforceable under the Paris Convention.[19] Under a practical perspective, it would be risky and therefore ill advised to seek the enforcement of a provisional judgment on liability for nuclear damage in another country.

Paragraph 58 of the Exposé des Motifs further states that Article 13(d) of the Paris Convention does "not include judgments rendered against persons other than the operator … rendered in actions in recourse by the operator … or actions for contribution between persons jointly and severally liable." Judgments on those actions shall not be enforceable under the Paris Convention in other Paris Convention states. The mentioned phrase in the Exposé des Motifs favours an interpretation that these judgments fall outside the scope of the Paris Convention. This would have the effect that the Paris Convention does not exclude their enforceability under other instruments or in accordance with the domestic law of the state where enforcement is sought. However, it must be borne in mind that the Paris Convention prescribes that in contracting states, apart from very few exceptions, only the operator is liable.[20] In contracting states of the Paris Convention and in those contracting states of the Vienna Convention that are bound by the Joint Protocol, the enforcement of

15. Article 13(i) of the Revised Paris Convention also refers to trial as well as to default judgments; see Part I(M)(i) of the 2004 Protocol.
16. See NEA (1982), "Exposé des Motifs", revised text approved by the OECD Council on 16 Nov. 1982, OECD Doc. C/M(82)24(Final), text available at www.oecd-nea.org/law/nlparis_motif.html, para. 58.
17. There is also no decision, recommendation or interpretation by the OECD Council or the Steering Committee for Nuclear Energy of the OECD Nuclear Energy Agency (NEA) on Article 13(d) of the Paris Convention.
18. See Law, J. and E.A. Martin (2009), *Oxford Dictionary of Law*, Oxford University Press, Oxford, on "interim judgment".
19. In this sense see also Kreuzer, K. and R. Wagner, *supra* note 12.
20. See Paris Convention, Article 6(a) and (b).

judgments (of courts of those states) that disregarded this channelling principle and are not covered by its exceptions is likely to be refused.

b. Jurisdiction of the judgment state

As a further precondition for enforcement, Article 13(d) of the Paris Convention requires that the judgment court was competent "under this Article". Article 13(a) of the Paris Convention establishes the exclusive jurisdiction of the court(s)[21] of the contracting state in whose territory the nuclear incident occurred.[22] If either the nuclear incident occurred outside the territory of the Paris Convention contracting states[23] or the place of the incident could not be determined with certainty, the courts have jurisdiction where the liable operator's installations were situated (Article 13(b)). Article 13(c) provides even for the rare case that jurisdiction would lie in more than one state. Then, if the nuclear incident occurred partly in a Paris Convention contracting state and partly in a non-contracting state, only the courts of the former would be competent.[24] If the incident occurred in two or more Paris Convention states, the tribunal that has been established under the Convention on the Establishment of a Security Control in the Field of Nuclear Energy[25] – the European Nuclear Energy Tribunal – could be asked to determine the competent court.[26] However, the original territorial scope of the Paris Convention must also always be observed: according to Article 2 the "Convention does not apply to nuclear incidents occurring in the territory of non-Contracting States or to damage suffered in such territory".[27] Judgments that have been rendered by courts that are not competent according to these rules remain unenforceable in other contracting states.

c. Formalities of the recognition/enforcement state

Judgments that are final and have been pronounced by a competent court are enforceable in another contracting state "as soon as the formalities required by the Contracting Party concerned have been complied with."[28] The "Contracting Party concerned" is the state where enforcement is sought. The "formalities" of this state must be complied with.

Again, the term must be given an autonomous interpretation. It is questionable whether "formalities" include or exclude the general grounds of national law for which the recognition and enforcement of a foreign judgment can be refused.[29] On the one hand, Article 14(b) of the Paris Convention provides that where the Convention refers to "national law" or "national legislation", "that law or legislation shall apply to all matters both substantive and procedural not specifically governed by this Convention." It could be

21. The NEA Steering Committee recommended that each contracting state of the Paris Convention should provide for one single court for compensation actions. See NEA (1990), "Recommendation of the Steering Committee of 3.10.1990, Single Competent Court", NEA Doc. NE/M(90)2, available in NEA (1990), *Paris Convention: Decisions, Recommendations, Interpretations*, OECD Publishing, Paris.
22. See also Sands, P. and P. Galizzi (2000), "The 1968 Brussels Convention and Liability for Nuclear Damage" in NEA, *Reform of Civil Nuclear Liability: Budapest Symposium 1999*, OECD Publishing, Paris, p. 480.
23. Again, for those Paris Convention states that have adopted the Joint Protocol, it extends the territory to the contracting states of the Vienna Convention that also have adopted the Joint Protocol.
24. Paris Convention, Article 13(c)(i).
25. Convention on the Establishment of a Security Control in the Field of Nuclear Energy (1957), 351 UNTS 235, entered into force 22 July 1959.
26. Paris Convention, Article 13(c)(ii).
27. However, the contracting state in whose territory the nuclear installation of the operator liable is situated may extend the territorial scope of the Convention. See Paris Convention, Article 2.
28. Paris Convention, Article 13(d).
29. Sands, P. and P. Galizzi (2000), *supra* note 22, p. 485, appear to leave even those grounds to national legislation.

inferred from this provision that national law always steps in where the Paris Convention is silent. However, Article 14(b) of the Paris Convention addresses the law that the competent judgment court shall apply; the provision does not deal with the law the enforcement state has to apply. Nonetheless, it could be argued that the essence of the provision should be applied by way of analogy to other situations as well.

On the other hand, grounds for the refusal of enforcement – e.g. lack of being heard, etc. – can hardly be qualified as "formalities". They are substantive reasons to refuse the recognition and enforcement of a foreign judgment. "Formalities" should therefore include only those formal requirements that a contracting state requests as necessary to enforce a foreign judgment, as for instance the institution of a special enforcement procedure or the like. Neither the original Paris Convention nor the (not yet applicable) 2004 Protocol provides for specific grounds to refuse the recognition and enforcement of foreign judgments.[30] However, a general reservation is probably inherent in all national enforcement rules that judgments should not be enforced where such enforcement violates the *ordre public* of the enforcement state.

d. Effects

Contrary to many other international instruments, such as in particular the Vienna Convention, and in contrast to most national laws, the Paris Convention does not state specific – negative – conditions that hinder the recognition and enforcement of foreign judgments. As discussed above, it could be argued that in regard of these conditions the national law of the respective contracting state should be applicable. The likely preferable view is that under the Paris Convention, no further conditions – except a general implicit *ordre public* reservation – must be met.[31] Therefore, if a final judgment is rendered by a court competent under the Paris Convention it must be recognised and enforced in the other contracting states (including those that are bound by the Joint Protocol). Article 13(d) of the Paris Convention explicitly prohibits a *révision au fond*; the courts of the enforcement state shall not investigate into the merits of the case.

3. Vienna Convention

The Vienna Convention on Civil Liability for Nuclear Damage of 1963 regulates the recognition and enforcement of foreign judgments in Article XII, which has been slightly amended by the 1997 Protocol. The Article provides that in principle, judgments on civil liability for nuclear damage that are rendered in a contracting state of this Convention shall be recognised and enforced in any of the other contracting states. The present number of contracting states of the original Vienna Convention is 43.[32] Only 15 of them[33]

30. Also Kreuzer, K. and R. Wagner, *supra* note 12.
31. For no further requirement at all, see Kreuzer, K. and R. Wagner, *supra* note 12; probably differently (requirements of national law) in: Sands, P. and P. Galizzi (2000), *supra* note 22, p. 485.
32. The states parties are: Argentina, Armenia, Belarus, Benin, Bolivia, Bosnia and Herzegovina, Brazil, Bulgaria, Cameroon, Chile, Croatia, Cuba, the Czech Republic, Egypt, Estonia, Ghana, Hungary, Jordan, Kazakhstan, Latvia, Lebanon, Lithuania, Mauritius, Mexico, Moldova, Montenegro, Niger, Nigeria, North Macedonia, Peru, the Philippines, Poland, Romania, the Russian Federation, Rwanda, Saint Vincent and Grenadines, Saudi Arabia, Senegal, Serbia, the Slovak Republic, Trinidad and Tobago, Ukraine and Uruguay. For more details, see IAEA (2020), "Vienna Convention on Civil Liability for Nuclear Damage", www-legacy.iaea.org/Publications/Documents/Conventions/liability_status.pdf.
33. The United Arab Emirates is not a contracting party to the 1963 Vienna Convention.

are also Revised Vienna Convention states.[34] Between these states, the free circulation of judgments is secured if certain conditions are met.

Article XII of the Vienna Convention provides:

1. A final judgment entered by a court having jurisdiction under Article XI shall be recognized within the territory of any other Contracting Party, except –
   (a) where the judgment was obtained by fraud;
   (b) where the party against whom the judgment was pronounced was not given a fair opportunity to present his case; or
   (c) where the judgment is contrary to the public policy of the Contracting Party within the territory of which recognition is sought, or is not in accord with fundamental standards of justice.
2. A final judgment which is recognized shall, upon being presented for enforcement in accordance with the formalities required by the law of the Contracting Party where enforcement is sought, be enforceable as if it were a judgment of a court of that Contracting Party.
3. The merits of a claim on which the judgment has been given shall not be subject to further proceedings.

According to this Article, recognisable and enforceable judgments must meet the following requirements:

a. Final decision

As a first condition for enforceability, Article XII(1) of the Vienna Convention requires a final judgment but does not define the term. Since Article XII does not mention "interim" or "provisional" judgments, it has been argued that the provision may allow their recognition and enforcement.[35] However, Article XII in the version as amended by the 1997 Protocol deletes the word "final" and provides that the judgment must be "no longer subject to ordinary forms of review" (in French: "*jugement … qui n'est plus susceptible des formes ordinaires de révision*"). This explanation is much clearer; it should be applied to the interpretation of the original Vienna Convention as well. This means that either the time for raising an appeal must have lapsed or that the judgment court must have been a court of last instance against the decisions of which no appeal would lie (which may be even a lower court if, for instance, the necessary sum or value for appeal is not reached). In effect, decisions which, in this sense, are not subject to appeal must be recognised and can be enforced; whereas provisionally enforceable decisions that can still be challenged are not covered and cannot be recognised and enforced in other contracting states (including those states bound by the Joint Protocol).

The Vienna Convention provision does not explicitly mention default judgments. They must be dealt with in accordance with the general rule under Article XII: if there still lies an ordinary appeal they are not recognisable and enforceable.

b. Jurisdiction of the judgment state

In accord with Article 13(d) of the Paris Convention, Article XII of the Vienna Convention further requires that the judgment court must have had jurisdiction under the Convention. The jurisdiction provision of the original Vienna Convention corresponds entirely with that

34. The states parties are: Argentina, Belarus, Benin, Bosnia and Herzegovina, Ghana, Jordan, Kazakhstan, Latvia, Montenegro, Morocco, Niger, Poland, Romania, Saudi Arabia and the United Arab Emirates. For more details, see IAEA (2020), "Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage", www-legacy.iaea.org/Publications/Documents/Conventions/protamend_status.pdf.
35. Sands, P. and P. Galizzi (2000), *supra* note 22, p. 486.

of the Paris Convention.[36] Earlier discussion on this topic in respect of the Paris Convention applies here as well.

Both the 1997 Protocol to amend the Vienna Convention and the 2004 Protocol to amend the Paris Convention (not yet in force) extend the jurisdiction to nuclear incidents occurring in the exclusive economic zone of the contracting states. States that are bound by the 1997 Protocol or the Joint Protocol must enforce judgments concerning such incidents.

c. No grounds for refusal

Contrary to the Paris Convention, Article XII of the Vienna Convention contains a list of three grounds that exclude the recognition and enforcement of a foreign judgment in another contracting state. The first ground is that the judgment "was obtained by fraud";[37] this is, for instance, the case where the judgment is based on the false testimony of witnesses whom the judgment creditor had bribed. The second ground for refusal of recognition and enforcement is where "the party against whom the judgment was pronounced was not given a fair opportunity to present his case".[38] This can occur when no reasonable steps were taken to inform this party of the institution of proceedings or that the party was not given a realistic opportunity to present their own case in the proceedings. The third ground is the broadest but also the vaguest one: a violation of the *ordre public* of the enforcement state or a violation of fundamental standards of justice.[39] A case where the judgment creditor obtained the judgment by bribing the judge may belong here (if not already qualified also as a case of fraud).

The first two refusal grounds should be interpreted in an autonomous way without redress to a specific national law. Otherwise, the desirable uniform application of these grounds would be impossible. Both the fraud and the fair opportunity grounds appear to be sufficiently apt for an autonomous interpretation. The *ordre public* ground refers explicitly to the public policy of the enforcement state but also to fundamental standards of justice. While the *ordre public* of the enforcement state has a clearly national connotation, the fundamental standards of justice are evidently of a general transnational character. They should, for instance, forbid the discrimination of a party on grounds of race, gender or religion irrespective of any contrary national rules.

The structure of Article XII (recognition of the foreign judgment, "except" where one of the grounds for refusal exists) weighs strongly in favour of the view that the burden of proof of the refusal grounds lies on the party who wants to challenge the judgment.

d. Formalities of the enforcement state

As with the Paris Convention, the "formalities" of the enforcement state must be fulfilled in order to achieve the enforcement of the foreign judgment in accordance with Article XII(2) of the Vienna Convention. From the structure of Article XII of the Vienna Convention, it can be rather clearly inferred that the grounds for refusal listed in Article XII(1) cannot be qualified as "formalities"; otherwise Article XII(2) would have most likely referred to the grounds in Article XII(1) (this also supports the interpretation advanced above for this question under the Paris Convention). "Formalities" are the mere formal requirements under which a foreign judgment can be enforced in the enforcement state. It is neither necessary nor admissible to take account of the substantive grounds which the domestic law of the enforcement state requires for the recognition and enforcement or its refusal.

36. Compare Vienna Convention, Article XI with Paris Convention, Article 13(a)-(c).
37. Vienna Convention, Article XII(1)(a); same wording in the 1997 Protocol, Article 14.
38. Vienna Convention, Article XII(1)(b); same wording in the 1997 Protocol, Article 14.
39. Vienna Convention, Article XII(1)(c); same wording in the 1997 Protocol, Article 14.

e. Effects

A final judgment of a competent court must be recognised and enforced in the other contracting states if no ground for refusal is present. Enforcement means that the foreign judgment must be given the same effects as if the judgment had been rendered in the enforcement state. Like under the Paris Convention, the merits of the claim adjudicated in the judgment must not be reassessed in the enforcement state. A *révision au fond* is forbidden.[40]

4. Joint Protocol

The Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention of 1988 enables the contracting states of each of the two conventions that have adopted the Joint Protocol to be regarded as the contracting states of both conventions and enjoy the benefits of the respective other convention. Presently, 31 states have adopted the Joint Protocol.[41] Of those states, 11 belong to the Paris regime, 20 to the Vienna regime.

The Joint Protocol has the theoretical effect of enlarging the circle of states where foreign judgments on civil liability for nuclear damage can be recognised and enforced as if they were judgments of the recognition/enforcement state. The Joint Protocol does not itself regulate the conditions for the recognition and enforcement of foreign judgments but leaves that to the two original conventions and their amendments.

Because the conditions for recognition and enforcement differ between the Paris and the Vienna Conventions – while the Paris Convention does not contain any grounds for the refusal of recognition and enforcement, the Vienna Convention lists specific grounds – the question arises regarding which conditions apply if a judgment is rendered under one convention but is to be enforced in the territory of the other. The text of the Joint Protocol states that the provisions of each convention shall be applied with respect to contracting states of the Joint Protocol that are parties of the other convention "in the same manner as between Parties to the [respective other] Convention."[42] Taken on its face, this would mean that Paris judgments are enforced in the Vienna territory in accordance with the Vienna conditions and vice versa.

The text of both conventions (Paris Convention, Article 13(d) and Vienna Convention, Article XII) is probably ambivalent. On the one hand, it could be inferred that the conditions for the recognisability and enforceability should follow the convention under which the judgment was entered because both conventions prescribe that the mere formalities of the enforcement state must be complied with.[43] On the other hand, the recognisability and enforceability must be assessed by the court of the enforcement state. Therefore, it could

40. Vienna Convention, Article XII(3) and 1997 Protocol, Article XII(2).
41. The states parties are: Benin, Bulgaria, Cameroon, Chile, Croatia, the Czech Republic, Denmark, Egypt, Estonia, Finland, France, Germany, Ghana, Greece, Hungary, Italy, Latvia, Lithuania, Montenegro, Netherlands, Norway, Poland, Romania, Saint Vincent and Grenadines, the Slovak Republic, Slovenia, Sweden, Turkey, Ukraine, the United Arab Emirates and Uruguay. For more details, see IAEA (2020), "Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention", www-legacy.iaea.org/Publications/Documents/Conventions/jointprot_status.pdf.
42. Joint Protocol, Article IV:
    1. Articles I to XV of the Vienna Convention shall be applied, with respect to the Contracting Parties to this Protocol which are Parties to the Paris Convention, in the same manner as between Parties to the Vienna Convention.
    2. Articles 1 to 14 of the Paris Convention shall be applied, with respect to the Contracting Parties to this Protocol which are Parties to the Vienna Convention, in the same manner as between Parties to the Paris Convention.
43. See Paris Convention, Article 13(d) and Vienna Convention, Article XII.

also be argued that the applicable conditions are those of the convention that is in force where enforcement is sought.

The view that the conditions in the judgment state should apply is clearly preferable. Only this view provides that the recognition and enforcement of a judgment is subject to the same conditions in all states that are bound both by the original convention and the Joint Protocol. Otherwise, a judgment rendered, for instance, in a Paris Convention state would be enforced in the other Paris Convention states in accordance with Article 13(d) of the Paris Convention but in the Vienna states (bound by the Joint Protocol) under different conditions. This solution would run counter to the aims of the Joint Protocol, namely to extend the effects of one convention to the territory of the other convention.[44]

5. *Brussels Ibis Regulation*

The Brussels Ibis Regulation applies to cases within the European Union (EU) covered neither by the Paris nor the Vienna Conventions. Article 71 of the Brussels Ibis Regulation grants priority to such special conventions.[45] As far as the conventions are not applicable, the Regulation's conditions for recognition and enforcement of foreign judgments must be observed if the judgment has been rendered in a member state of the Regulation and shall be recognised or enforced in another EU member state. The Brussels Ibis Regulation is rather detailed with respect to recognition and enforcement. The Regulation aims to facilitate the free circulation of judgments within the EU. The formal requirements have therefore been reduced. However, the grounds for the refusal of enforcement are relatively numerous. The following conditions must be met:

a. Judgment

Contrary to the Paris and the Vienna Conventions, under the Brussels Ibis Regulation not only judgments but also court settlements and authentic instruments can be enforced.[46] The Regulation provides for a wide definition of "judgment" that can be recognised and enforced. It includes "a decree, order, decision or writ of execution, as well as a decision on the determination of costs or expenses by an officer of the court."[47] Even provisional, including protective, measures ordered by the court competent for the substance of the dispute can be enforced if the defendant was summoned to appear or the measure was served on the defendant prior to enforcement.[48] All such judgments are to be recognised "without any special procedure being required"[49] and are enforceable in the other member states.[50] Recognition and enforcement can only be refused if the interested party so requests and specific grounds for refusal are present.[51]

b. Grounds for refusal

The grounds for refusal are listed in Article 45(1) of the Brussels Ibis Regulation. They comprise the following: 1) the manifest violation of the *ordre public* of the enforcement state; 2) in case of default judgments that the defendant was not served in a way that he or she could arrange for a defence (unless the defendant failed to institute a possible remedy); 3) if the judgment is irreconcilable with a judgment between the same parties in the enforcement

44. See Joint Protocol, Article IV.
45. Also Hess, B. in Schlosser, P. and B. Hess (eds.) (2015), *EU-Zivilprozessrecht: EuZPR*, 4th edition, C.H. Beck, Munich, Article 71, note 3; Mankowski, P. in Magnus, U. and P. Mankowski (eds.) (2016), *Brussels Ibis Regulation: Commentary*, Verlag Dr. Otto Schmidt KG, Cologne, Germany, Article 71, note 18.
46. See Brussels Ibis Regulation, Articles 39, 58 and 59.
47. Brussels Ibis Regulation, Article 2(a).
48. *Ibid*.
49. Brussels Ibis Regulation, Article 36(1).
50. Brussels Ibis Regulation, Article 39.
51. See Brussels Ibis Regulation, Articles 45 and 46.

state; 4) if the judgment is irreconcilable with an earlier judgment between the same parties and on the same cause of action if this judgment would be recognised in the enforcement state; 5) where the judgment disregarded either the exclusive jurisdiction[52] or the protective jurisdiction that the Regulation grants to consumers, employees or in connection with insurance contracts.

Contrary to the Paris and the Vienna Conventions, the Regulation thus does not require that the competent court has always delivered the judgment the recognition and enforcement of which is sought. It is sufficient that the rules on exclusive and protective jurisdiction have not been violated. The reason behind this is the mutual trust that the Brussels Ibis Regulation accords the judicial systems of the member states and that the courts of those states will apply the jurisdiction rules correctly.

However, according to Article 41(2) of the Brussels Ibis Regulation enforcement can also be denied if the domestic law of the enforcement state provides for further grounds for refusal as long as they are compatible with the grounds the Regulation lists in Article 45(1).

c. Formalities for recognition and enforcement

The recognition of a judgment rendered in one of the EU member states in other member states does not require any formal procedure. It is sufficient that the interested party presents a copy of the original judgment and a special certificate issued by the judgment court that gives the particulars of the judgment and certifies its enforceability.[53]

Similarly, the enforcement of a judgment does not require a separate procedure that declares the decision enforceable.[54] The foreign judgment must be enforced in the same way as a decision rendered in the enforcement state. The law of the enforcement state regulates how this proceeds.[55] As with the recognition of a judgment, the interested party must present a certified copy of the original judgment and the special enforceability certificate.[56]

d. Effects

Like the Paris and the Vienna Conventions, the Brussels Ibis Regulation forbids a *révision au fond*.[57] Even the jurisdiction of the judgment court (including the facts on which jurisdiction is based) may not be reviewed except insofar as the recognising or enforcing court must examine whether the exclusive and protective jurisdiction rules of the Regulation have been observed.[58] When recognised or enforced, a judgment of an EU member state has the same effects in other EU states as it has in the judgment state. The prevailing view is that the effects of the original judgment are extended to the country of recognition or enforcement.[59]

6. Lugano Convention of 2007

The Lugano Convention of 2007 is identical to the predecessor of the Brussels Ibis Regulation.[60] This equivalence remains with most aspects of the current Brussels Ibis

52. See Brussels Ibis Regulation, Article 24.
53. Brussels Ibis Regulation, Articles 37 and 53, concerning Annex I; the form of the certificate is standardised and uniform for all EU member states.
54. Brussels Ibis Regulation, Article 39.
55. Brussels Ibis Regulation, Article 41(1).
56. See Brussels Ibis Regulation, Article 42.
57. See Brussels Ibis Regulation, Article 52.
58. See Brussels Ibis Regulation, Article 45(2) and (3).
59. See Schlosser, P. and B. Hess (2015), *EU-Zivilprozessrecht: EuZPR*, 4th edition, C.H. Beck, Munich, Article 36, note 2; Wautelet, P. in Magnus, U. and P. Mankowski (eds.) (2016), *Brussels Ibis Regulation: Commentary*, Verlag Dr. Otto Schmidt KG, Cologne, Germany, Article 36, note 3 et seq.
60. Council Regulation (EC) No 44/2001 of 22 December 2000 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters, OJ L 12/1 (16 Jan. 2001).

Regulation, in particular with respect to the grounds for refusal of the recognition and enforcement.[61] However, the Lugano Convention of 2007 still provides for a special procedure for the declaration of enforceability in the enforcement state.[62] The Brussels Ibis Regulation has abolished this requirement. Apart from this difference, what has been said on the Brussels Ibis Regulation applies also to the Lugano Convention of 2007.

7. German domestic law on recognition and enforcement of foreign judgments

German law may serve as an example of how national laws regulate the recognition and enforcement of foreign judgments. However, it must be borne in mind that each national law regulates this complex area in its own way and may provide for conditions that differ considerably from those of German law. Domestic law must always be applied where neither special conventions – like the Paris and the Vienna Conventions – nor the EU/Lugano regime or other treaties cover the case at hand. Despite all these instruments, national law is still frequently applicable. This is due to the principle that the international or supranational instruments cover the recognition and enforcement only if the judgment has been rendered and shall be recognised or enforced within the territorial scope of the respective instrument.

In principle, under German law, foreign judgments shall be recognised and enforced. However, recognition and consequently enforcement is excluded if certain grounds for their refusal exist that are listed in section 328 of the German Code of Civil Procedure (*Zivilprozessordnung* – ZPO).[63]

a. Final judgments

Decisions of foreign (state) courts can be recognised and enforced.[64] In order to be enforceable, the decision must be final and not subject to appeal in the judgment state.[65] Provisional decisions are unenforceable.

b. Grounds for refusal of recognition and enforcement

The grounds for the refusal of recognition and enforcement of foreign judgments overlap to a wide extent with those of the Brussels Ibis Regulation but they are not identical. They are the following:[66] 1) the foreign court that rendered the judgment had no jurisdiction (viewed from the perspective of the German law on jurisdiction); 2) if the defendant who did not submit to the proceedings was not given orderly and timely notice of the proceedings; 3) if the judgment is not reconcilable with a German judgment or pending German proceedings or with a former foreign judgment that had to be recognised; 4) if the recognition of the judgment would manifestly violate fundamental rules of German law, in particular human rights; 5) if there is no reciprocity of recognition and enforcement with the judgment state (and the matter concerns a pecuniary claim).

61. Compare Lugano Convention, Articles 34 and 35 with Brussels Ibis Regulation, Article 45(1).
62. See Lugano Convention, Article 38.
63. Code of Civil Procedure as promulgated on 5 Dec. 2005 (*Bundesgesetzblatt* (BGBl., Federal Law Gazette) I page 3202; 2006 I page 431; 2007 I page 1781), last amended by Article 1 of the Act dated 10 Oct. 2013 (Federal Law Gazette I page 3786).
64. See ZPO, secs. 328, 722, 723.
65. See ZPO, sec. 723(2).
66. See ZPO, sec. 328(1).

Compared to the grounds for refusal in the Paris and the Vienna Conventions, as well as in the Brussels Ibis Regulation, the German domestic law narrows the possibility of recognition and enforcement in particular by the requirement of reciprocity. But also the requirement of full compliance with the own (German) jurisdiction provisions tends to limit the recognition and enforcement of foreign judgments.

c. Formalities

Unlike the recognition of a foreign judgment, its enforcement requires a specific procedure that declares the judgment enforceable.[67] It is accepted that this procedure is governed by German law.

d. Effects

It is understood that the recognition and enforcement of a foreign judgment extends the legal effects of the judgment from the decision country to the country of recognition and enforcement.[68] Like the other instruments, German law does not allow a *révision au fond*.[69]

III. Conclusions

A first observation and conclusion that can be drawn from the preceding survey is that even for the limited field of recognition and enforcement of judgments on liability and compensation for nuclear damage, a confusing variety of sources of law exists: the two basic nuclear liability conventions with their different protocols, including the Joint Protocol, and additional conventions; the Brussels/Lugano regime; further bi- or multilateral treaties concerning the recognition and enforcement of foreign judgments; and in the last instance the autonomous national law in this complex area. It is a thorny task to decide with certainty which of the sources applies in the case at hand because it is not easy to reliably establish the territorial and temporal scope of the mentioned instruments.

A second observation and conclusion concerns the differences between the various instruments. The survey has shown that the conditions for the recognition and enforcement differ between the different instruments, and they differ between the autonomous national regulations as well. For this reason, it is always necessary to establish which specific instrument applies. For victims of nuclear incidents who have reached a judgment in one state, it appears desirable that this judgment should be enforceable in other states under like, and not varying, conditions that establish different hurdles. This is particularly true with respect to the recognition and enforcement in the state where the responsible operator or liable person has its seat and property.

A third observation and conclusion concerns the conditions for recognition and enforcement and the grounds for their refusal. There is unanimity on some but not on all those conditions and grounds. It is uniformly accepted that the judgment must stem from a court that had jurisdiction (in the view of the enforcing state). Further, the judgment must be enforceable in the judgment state. According to a widely accepted view, the judgment can only be recognised and enforced if the disadvantaged party was given a fair opportunity to be heard and if the judgment does not manifestly violate the *ordre public* of the enforcement state. Moreover, it is a common principle that the enforcement state must not delve into the merits of the foreign decision (prohibition of a *révision au fond*). There are further conditions and grounds for refusal that are accepted only by some instruments and laws such as reciprocity or that the judgment was not obtained by fraud or that the judgment should not be irreconcilable with another judgment between the parties. In essence, the conditions for recognition and enforcement as well as the grounds of refusal are far from uniform.

67. See ZPO, sec. 722.
68. See only Gottwald, P. in Kruger, W. and T. Ruascher (eds.) (2020), *Münchener Kommentar zur Zivilprozessordnung: ZPO, Band 1: §§ 1-354*,6th edition, C.H.Beck, Munich, § 328, note 4 et seq.
69. ZPO, sec. 723(1).

A last conclusion must address the question whether further harmonisation concerning the recognition and enforcement of judgments on liability for nuclear incidents is desirable. In the interest of an easier practical application and in the interest of victims of nuclear incidents who were granted a judgment in one country, the question should be answered in the affirmative. At least within the Paris/Vienna regime, the rules on recognition and enforcement should be unified. Having the purposes of both conventions in mind, the recognition and enforcement of judgments should be granted in a generous way and not depend on overly restrictive conditions. As regards the jurisdiction of the judgment court, the enforceability in the judgment state and a modest *ordre public* reservation appear as necessary but also sufficient conditions for the enforcement in the enforcement state.

CASE LAW

Germany

Three decisions of German law courts concerning the export of unirradiated fuel assemblies to nuclear power plants in neighbouring countries

In Germany, the export of unirradiated nuclear fuel fabricated in a German facility to foreign nuclear power plants has been the object of three significant court decisions. Germany's only remaining nuclear fuel fabrication plant is operated by Advanced Nuclear Fuels (ANF), a subsidiary of Framatome, in Lingen in northwest Germany, under a licence that is not limited in time and not affected by the nuclear phase-out established by legislation in 2002 and 2011.

Article 3 of the German Atomic Energy Act[1] provides that export of nuclear fuel requires a licence, to be issued by the German Federal Office for Economic Affairs and Export Control (Bundesamt für Wirtschaft und Ausfuhrkontrolle – BAFA). In 2020, two such export licences granted to ANF/Framatome – one referring to the Doel nuclear power plant in Belgium, operated by Engie Electrabel, and the other referring to the Leibstadt nuclear power plant in Switzerland, operated by Kernkraftwerk Leibstadt AG – were challenged by individuals and by non-governmental organisations (NGOs), asserting that the lawful conditions for granting the licence were not met.

Article 3 "Imports and exports", paragraph 3 of the German Atomic Energy Act states:

> An export licence shall be granted provided that
>
> 1. there are no known facts giving rise to doubts as to the reliability of the exporter, and
>
> 2. it is assured that the nuclear fuel to be exported will not be used in such a way as to jeopardise the international obligations of the Federal Republic of Germany in the field of nuclear energy or the internal or external security of the Federal Republic of Germany.

The assertion put forward by the opponents was that the export of nuclear fuel to the Doel and Leibstadt nuclear power plants constituted a threat to the internal security of the Federal Republic of Germany. They contended that both nuclear power plants, due to their age, were prone to failures and safety events and thus could not be safely operated. As the plaintiffs set forth, both plants – the Doel nuclear power plant being situated about 140 km from the border between Belgium and Germany and the Leibstadt nuclear power plant, located on the banks of the Rhine bordering Germany – were sufficiently near German territory to justify the assumption that a major accident, if it occurred, would threaten the lives, health and property of people living in Germany. The lives and health of German citizens and an intact environment in Germany were to be understood as matters concerning the "internal security of the Federal Republic of Germany" as addressed in Article 3 of the German Atomic Energy Act.

1. *Gesetz über die friedliche Verwendung der Kernenergie und den Schutz gegen ihre Gefahren (Atomgesetz)* [Act on the Peaceful Utilisation of Atomic Energy and the Protection against its Hazards (Atomic Energy Act)] of 23 December 1959, as amended and promulgated on 15 July 1985, BGBl. I, p. 1565, as amended.

In the case of an export to the Doel nuclear power plant, plaintiffs also challenged the legality of the facility's operation. Reference was made to the judgment of the Court of Justice of the European Union (CJEU) of 29 July 2019 in the case *Inter-Environnement Wallonie and Bond Beter Leefmilieu Vlaanderen*,[2] where the CJEU ruled that the ten-year lifetime extension of Units 1 and 2 of the Doel nuclear power plant established by Belgian legislation in 2015,[3] constituted a "project" under the European Union (EU) Environmental Impact Assessment Directive[4] and should have been subject to an environmental impact assessment (EIA). By contrast, the plaintiffs did not deem relevant the fact that the CJEU had left open the option to the national courts of Belgium to allow operation of the Doel nuclear power plant under overriding considerations relating to the security of the electricity supply of Belgium, if applicable, until the breach had been remedied by performing an EIA, and that the Belgian Constitutional Court (*Cour Constitutionnelle*) had rendered a decision on 5 March 2020 stating that these conditions were met and that the nuclear power plant could be kept in service until the EIA had been performed, at the latest by the end of 2022. According to the opponents, the *Cour Constitutionnelle* had wrongly assumed that the operation of the Doel nuclear power plant was essential for the Belgian electricity supply; they asserted that the ruling of the Belgian court in any case was not binding on German law courts.

ANF/Framatome as holder of the export licences and the two utilities Engie Electrabel and Kernkraftwerk Leibstadt AG, which were summoned to the proceedings according to the German law of administrative jurisdiction, took the position that the export licences were lawful. They put into question the legality and legal relevance of Article 3 of the German Atomic Energy Act as such, contending that this national provision, submitting the export of nuclear fuel to an additional export licence, conflicted with Article 22, paragraph 1 of the EU dual-use regulation,[5] with its Appendix IV which alone defined the extent to which the free movement of goods and materials within the EU/Euratom common market was subject to restrictions and to previous control. As to the "internal security" of Germany mentioned in Article 3(3), this term, they asserted, only addressed issues pertaining to the existence and functioning of the Federal Republic of Germany as such, such as defence or intelligence issues, and did not address the legal interests of individual persons or the protection of the environment. Finally, they maintained that both the Doel and Leibstadt nuclear power plants were operated lawfully and safely.

In the case of the export licence to the Doel nuclear power plant, ANF/Framatome and Engie Electrabel particularly pointed to the jurisdiction of the CJEU in the Temelín case.[6] In this decision, the Court stated that a licence issued to a nuclear power plant by the competent authorities in the Czech Republic had to be accepted in Austria as being a valid licence, meaning that a provision of Austrian law whose application depended on the fact that a facility was operated without a licence could not be applied by the Austrian courts in the case of the Czech nuclear power plant. The CJEU underlined that the Community legislative framework, by virtue of the provisions of the Euratom Treaty and secondary

2. Judgment of 29 July 2019, *Inter-Environnement Wallonie ASBL and Bond Beter Leefmilieu Vlaanderen ASBL v. Council of Ministers*, C-411/17, EU:C:2019:622.
3. *Loi du 28 juin 2015 modifiant la loi du 31 janvier 2003 sur la sortie progressive de l'énergie nucléaire à des fins de production industrielle d'électricité afin de garantir la sécurité d'approvisionnement sur le plan énergétique* [Act of 28 June 2015 amending the Act of 31 January 2003 on the gradual phasing out of nuclear energy for industrial electricity production in order to guarantee security of energy supply] (*Moniteur belge* of 6 July 2015).
4. Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment as amended by Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014, *Official Journal of the European Union* (OJ) L 26 (28 Jan. 2012), p. 1.
5. 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 (Recast), OJ L 134 (29 May 2009), p. 1.
6. Judgment of the Court (Grand Chamber) of 27 Oct. 2009, *Land Oberösterreich v. ČEZ as*, C-115/08, ECLI:EU:C:2009:660.

legislation, established a common framework for nuclear safety and therefore ensured protection of the health and safety of all EU citizens. Nuclear facilities could only be licensed by the competent authorities if they complied with standards which are, on a high level, uniform in the Community and which guarantee adequate safety. As the Doel nuclear power plant was operated under the consent of the Belgian regulator (the Federal Agency for Nuclear Control – FANC) based on the judgment of the Belgian *Cour Constitutionnelle*, the principle of mutual recognition of licences as set forth in the Temelín case – ANF/Framatome and Engie Electrabel asserted – was fully applicable. Further, ANF/Framatome and Engie Electrabel asserted that the *Cour Constitutionnelle* was entirely right in underlining the Doel nuclear power plant's crucial role in the Belgian electricity supply.

These assertions and arguments were exchanged in a complicated series of procedural events. In German law, persons who want to contest a licence issued by the BAFA first have to lodge an administrative recourse with the BAFA itself. Only if the BAFA formally confirms its licensing decision can they file an action with the competent law court, the Administrative Tribunal (*Verwaltungsgericht*) in Frankfurt (the BAFA's seat is near Frankfurt). Currently, several administrative recourses and actions concerning the two export licences are still pending with the BAFA and the court in Frankfurt. However, these procedures have been overtaken by events in preliminary procedures.

Again, according to German law, administrative recourses or actions before a law court directed by third parties against a licence as a principle have a suspensive effect, meaning the licence must not be put into operation by the licensee until its legality is ultimately confirmed. There is no suspensive effect, however, if the recourse or action is obviously impermissible and has no chance of success. This exception was developed by the law courts to prevent a frivolous use of the suspensive effect merely to inflict damage on a licensee even if there is no serious prospect of actually overturning the licence. For permissibility of a recourse or action, under German law it is not sufficient to assert that the licence is unlawful; the claim must be based on the breach of a legislative provision that confers a legal interest on individual persons such as the plaintiff.

The issue of suspensive effect was a crucial one. ANF/Framatome and the two nuclear power plant operators had a strong interest in effectuating the exports, since the two nuclear power plants concerned were dependent, for their continued operation, on the delivery of the fuel assemblies. In the order of procedural events, the first case concerned an action filed against the export licence to the Doel nuclear power plant by an individual person. ANF/Framatome first requested, with the BAFA, a declaration of immediate execution, which would have overturned any suspensive effect. When BAFA did not react, ANF/Framatome brought a preliminary procedure before the *Verwaltungsgericht* in Frankfurt, requesting the Administrative Tribunal to declare that there was no suspensive effect since the action was impermissible and bound to be rejected.

In a 16 October 2020 decision, the Frankfurt court declined this request, stating that it could not entirely be ruled out that the plaintiff was entitled to contest the legality of the export licence. The court also expressed the opinion that the operation of the Doel nuclear power plant was unlawful in the light of the CJEU judgment.

This decision was promptly appealed by ANF/Framatome and Engie Electrabel by a complaint directed to the Superior Administrative Court (*Verwaltungsgerichtshof*) in Kassel. In its decision of 8 December 2021, the Kassel court, overturning the decision of the Frankfurt court, granted the request to confirm that the plaintiff's action had no suspensive effect. The Kassel court based its decision mainly on the finding that Article 3(3) of the German Atomic Energy Act, when using the term "internal security of the Federal Republic of Germany", only referred to the interests of the state and did not attribute a legal interest to individual persons. Therefore, the plaintiff's action was bound to be found impermissible in the main procedure.

Since this aspect by itself sufficed to support the decision, the court could afford to expressly leave open the question whether the judgment of the Belgian *Cour Constitutionnelle* of 5 March 2020 prevented from the start a German court from addressing the question of the safety of the Doel nuclear power plant and whether a German court was competent, in light of the Euratom Treaty and of the Temelín judgment of the CJEU, to render any decision

concerning the operation of a nuclear power plant in another state party to the EU/Euratom treaties that complied with the relevant legal requirements of that state. The manner in which these two issues were addressed in the decision suggested that the court was rather sympathetic to their relevance.

Just when this decision, to which there was no appeal, seemed to have settled the matter, new administrative recourses were submitted, this time by NGOs, first against the export licence to Leibstadt and then against the export licence to Doel. This brought a new twist to the matter since NGOs, under German legislation based on the Aarhus Convention[7] and subsequent EU legislation, have a privileged status when filing claims in environmental issues. The NGOs contended that their recourses were permissible, thus triggering a suspensive effect, and that the Kassel judgment was not applicable to them. When ANF/Framatome, in December 2020, made several transports to Leibstadt, they were accused by the NGOs of breaching the suspensive effect and infringing penal law, and notices of offence were filed with the public prosecutor.

ANF/Framatome again filed a request with the *Verwaltungsgericht* in Frankfurt to rule that there was no suspensive effect. This time it filed with Kernkraftwerk Leibstadt AG since the export to Leibstadt was the first to be assailed. In its decision of 12 February 2021, the court granted this request. It did not endorse the argument that Article 3 of the German Atomic Energy Act had no effect of its own besides the EU dual-use regulation; however, it ruled that the export licence for nuclear fuel did not concern a "project" under the legislation granting a privileged status to environmental NGOs, meaning that the NGOs' action was as impermissible as the earlier one filed by an individual.

The NGO did not appeal this decision. As mentioned earlier, the main proceedings, dealing with the legality of the export licences, are still pending but the court decisions in the preliminary proceedings have essentially settled the matter and little interest remains in the further procedure.

To summarise the other procedure, individuals and NGOs opposed to the operation of the fuel facility in Lingen and/or to the operation of ageing nuclear power plants in neighbouring countries have failed in their effort to contest the legality of export licences for nuclear fuel fabricated in Lingen and delivered to such nuclear power plants. The decisive aspect was that the German provision in question, Article 3 of the German Atomic Energy Act, by establishing the safeguarding of the internal security of the Federal Republic of Germany as a prerequisite for an export licence, did not address the (asserted) risk for German citizens and the environment in Germany posed by the operation of the facilities to which the fuel assemblies are delivered; thus, actions based on the assertion that the authority (BAFA) had not checked these issues were not permissible. Besides raising complicated issues of permissibility of claims under German law of administrative jurisdiction, which in the end proved decisive, the cases also involved interesting issues of EU/Euratom law and international nuclear law. A particularly relevant one was the question whether EU member states could, even if they wanted, make fuel exports dependent on their own evaluation of the safety and of the lawful operation of nuclear power plants licensed in other member states – a question that would seem to raise interesting issues especially under the Temelín jurisdiction of the CJEU. However, ultimately the German law courts did not have to decide on this question.

7. Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (1998), 2161 UNTS 450, entered into force 30 Oct. 2001 (Aarhus Convention).

Japan

Report on the first appellate court ruling that deemed the state responsible for the Fukushima Daiichi nuclear power accident

Several lawsuits regarding the Fukushima Daiichi nuclear power plant accident (hereinafter referred to as "the Fukushima accident") in Japan have been filed in recent years. As previously summarised,[8] the plaintiffs in each case have alleged that the government has responsibility for failing to exercise regulatory authority over Tokyo Electric Power Company (TEPCO), and have sought damages.

As of March 2021, a decade since the Fukushima accident, there have been 18 compensation lawsuits with judicial decisions regarding the state's responsibility: ten of these courts deemed both TEPCO and the state liable to pay compensation, while the remaining eight courts rendered judgments that absolved the state of responsibility for the accident. All 18 decisions follow the State Redress Act,[9] which dictates whether a claim for state compensation is justified or not. According to these rulings, the requirements for the state's illegality are the following: 1) the existence of a regulatory power; 2) the foreseeability of the accident; and 3) the avoidance of the accident based on the premise that there is an obligation for state intervention. The third requirement is the most crucial regarding the state's responsibility.

The details of the Sendai High Court ruling (30 September 2020),[10] which is the first appellate court ruling[11] to fully recognise the illegality of the state and its failure to intervene and administer TEPCO, are summarised below.

1. *Overview of the Sendai High Court ruling*

The Sendai High Court ruling (30 September 2020) is the appellate court ruling reviewing a class action lawsuit, where the plaintiffs were forced to evacuate their homes due to the Fukushima accident and sought compensation for damages from the state as well as TEPCO. The court found TEPCO and the state equally liable and ordered compensation of approximately JPY 1.01 billion (Japanese yen).

2. *Detail of the ruling*

- a. Illegality of the state and its failure to intervene

In past state compensation lawsuits, there have been five Supreme Court precedents that assessed whether the state failed to use its regulatory powers.[12] While the court's decisions on state liability differ, the legal framework for the judgment is common among all cases. When the state is granted discretion to use its regulatory powers but does not use them,

8. NEA (2019), "Update on lawsuits related to the government responsibility following the Fukushima Daiichi nuclear power plant accident", *Nuclear Law Bulletin*, No. 103, OECD Publishing, Paris, pp. 47-49. For more information on nuclear case law in Japan, see "Nuclear Law Japan: Decision relating to nuclear energy industry" (n.d.), https://nuclear-law-japan.org (accessed 9 Sept. 2021).
9. State Redress Act, Law No. 125 of 1947 (27 Oct. 1947).
10. In response to this judgment, TEPCO and the state have appealed to the Supreme Court.
11. Japan has adopted a three-tier system in which, in principle, there can be up to three hearings for each case. A case may be appealed to the Supreme Court when it involves important matters concerning the interpretation of laws and regulations.
12. For judgments rejecting state liability, see Supreme Court decision of 24 November 1989, *Minshu*, Vol. 43, No. 10, p. 1169; Supreme Court decision of 23 June 1995, *Minshu*, Vol. 49, No. 6, p. 1600. For judgments recognising state liability, see Supreme Court decision of 27 April 2004, *Minshu*, Vol. 58, No. 4, p. 1032; Supreme Court decision of 15 October 2004, *Minshu*, Vol. 58, No. 7, p. 1802; and Supreme Court decision of 9 October 2014, *Minshu*, Vol. 68, No. 8, p. 799.

the court's framework ruled that the non-exercise intervention is illegal when it deviates from permissible limits and is extremely unreasonable under the various circumstances and specific conditions to be considered comprehensively.

The Sendai High Court ruling followed the same framework for judging state non-intervention with the above-mentioned Supreme Court precedents. On that basis, it was recognised that the state had regulatory power over the technical standards of the Electricity Business Act (i.e. the act that protects "the interests of electricity users", assures "public safety", and promotes "environmental preservation by regulating the construction, maintenance and operation of electric facilities"), and the judgment focused on the following:

i. *Foreseeability*

The state's ability to foresee the arrival of a tsunami exceeding the height of the site where the nuclear power plant was located (i.e. OP[13] +10 m) was judged.

ii. *Reliability of the Long-Term Evaluation (LTE) and foreseeability*

The LTE prepared by a state agency was published in July 2002. Based on this earthquake prediction, TEPCO estimated tsunamis exceeding OP +15 m in the region in April 2008. On the other hand, the nuclear regulatory body relied on the Tsunami Assessment Method for Nuclear Power Plants of a private academic society that was not qualified to indicate the proper supervision and regulation of nuclear operators. Therefore, judging the non-exercise of the state's regulatory powers illegal is practically equal to judging whether the reliability of LTE was sufficient to justify that.

The LTE was published by a state agency involving many experts; it was a credible report with an objective scientific basis. If the state had immediately instructed TEPCO to perform tsunami estimates based on this report or had voluntarily estimated tsunamis, it could have foreseen the arrival of tsunamis exceeding OP +10 m by the end of 2002 at the latest.

iii. *Response of the state to the LTE*

In 2002, the state unquestioningly accepted TEPCO's opinion on the LTE and did not use its regulatory powers; however, the knowledge was updated and the public's expectations for state intervention rose.

iv. *Avoidance of consequences*

The avoidance of consequences is based on whether the accident could have been avoided using the state's regulatory powers; the burden of proof is on the state in cases where the plaintiffs have proven the possible avoidance of consequences with a certain degree of specificity. In such cases, the state needs to prove that the measures could not be implemented or that the accident was unavoidable even after implementing the measures; if proofs are not exhaustive, the accident is deemed avoidable.

In the case of the Sendai High Court ruling, the plaintiffs argued that the accident could have been avoided by installing seawall and watertight measures. Meanwhile, the state did not exhaustively prove that the alleged measures by the plaintiffs could not have been implemented by using the state's regulatory power or that the accident was unavoidable even after implementing the alleged measures; thus, de facto avoidance of consequences was inferred.

v. *Avoidance of harm by the victims*

If the nuclear operator does not take appropriate measures against incidents such as a station blackout, it is practically impossible for the residents in the vicinity of the nuclear power plant to avoid harm, and safety can only be ensured through the use of the state's

13. Abbreviation for Onahama Peil, the lowest water surface in Onahama Port, Fukushima Prefecture. The reference plane is defined for each port (and neighbouring rivers) in the region during construction.

regulatory powers; therefore, in the case of the Fukushima accident, the state was expected to intervene and strictly evaluate whether TEPCO had taken appropriate measures against tsunamis.

vi. Comprehensive review

A study meeting organised by the state in May 2006 reported the possibility of a station blackout, following trial calculations conducted by TEPCO. Furthermore, in September 2006, the Nuclear Safety Commission (NSC), which is a council of the Cabinet Office, revised its guidelines to include tsunami safety assessments for existing nuclear reactors. Based on these facts, the state's non-intervention deviated from permissible limits and became extremely unreasonable by the end of 2006 at the latest, and was therefore illegal under the State Redress Act, even more so after considering that the discretion of the state is recognised in technical expertise.

- b. Liability of the state and its degree

It can be argued that the state's non-intervention is secondary and supplementary; nevertheless, the state itself had initially authorised the establishment of the Fukushima Daiichi nuclear power plant by TEPCO on its own responsibility. It is inappropriate to limit the degree of liability to only a part of the damage incurred; hence, TEPCO and the state are both liable to pay compensation for the entire damage.[14]

3. *Uniqueness of the ruling*

The Sendai High Court ruling acknowledged the state's responsibility following the conventional framework dictating whether a claim for state compensation is justified or not based on the state's non-intervention and maintained that "it is inappropriate to limit the degree of liability to partial responsibility." This is discernible by the fact that the appellate court ruling explicitly ruled the illegality of the state for the first time in a compensation lawsuit over the Fukushima accident.

In the series of lawsuits, the court rulings recognising and rejecting the state's responsibility parted ways over whether the LTE could be regarded as scientific knowledge that cannot be ignored, given that the reliability of LTE was yet to be strictly evaluated. Furthermore, the court rulings disagree on when foreseeability and avoidance were possible to be recognised. Hence, future trends should be closely monitored.

Switzerland

Judgment of 25 March 2021 (2C_206/2019)

The Swiss Federal Tribunal confirms the correct assessment of an earthquake that would happen every 10 000 years

The Swiss Federal Tribunal rejected the main ground of an appeal concerning the seismic safety assessment for the Beznau nuclear power plant requested by the Swiss Federal Nuclear Safety Inspectorate (ENSI) after the 2011 Fukushima Daiichi nuclear power plant accident. According to the judgment, ENSI is not required to request new seismic safety assessments from the Beznau nuclear power plant, considering that the organisation had already requested them in 2016.

After the Fukushima Daiichi nuclear power plant accident in 2011, ENSI asked the Beznau nuclear plant operator to provide a safety assessment. ENSI had posited an earthquake of a magnitude encountered once every 10 000 years, possibly causing river

14. The operator is liable to pay compensation according to the Act on Compensation for Nuclear Damage, Act No. 147 of 17 June 1961. This law provides for the strict liability of the operator.

flooding. Proof had to be brought that in such a case, cooling of the core and safety of the spent fuel storage pools would still be operational and the dose limit of 100 millisieverts (mSv) would not be exceeded in the immediate surroundings of the plant. The operator provided the required safety assessment in 2012. In a decision rendered in 2017, ENSI determined that the safety assessment fully complied with applicable legal requirements. In 2019, the Administrative Tribunal dismissed the appeal brought by several individuals against the 2017 decision.

The plaintiffs then turned to the Federal Tribunal, essentially arguing that an earthquake of a magnitude encountered once every 10 000 years should be ranked as a category 2 fault and that, as a consequence, the permissible dose limit should be set at 1 mSv. Based on its interpretation of the applicable provisions of the relevant Ordinance, the Federal Tribunal determined that such was not the case and that for the posited earthquake, the 100 mSv value was appropriate. As this dose limit was followed, there was no reason to immediately shut down the Beznau nuclear power plant.

However, the Federal Tribunal partially granted the appeal in so far as, according to the applicable law in 2017 (at the time of the ENSI decision), ENSI should have requested an additional safety assessment. The operator should have proven that in case of a less serious earthquake of fault category 2, the nuclear power plant would be in compliance with the corresponding radiation dose limit of 1 mSv. This stems from the fact, among others, that complying with a higher dose limit of 100 mSv in case of the most serious earthquake belonging to fault category 3 only gives limited indication as to whether, in case of a fault category 2 earthquake, the inferior limit of 1 mSv would be achieved.

ENSI must therefore ask the Beznau nuclear power plant's operator for the relevant additional safety assessment, based on applicable law, unless ENSI already requested new fault analyses in the meantime. Such is the case. In 2016, ENSI requested this safety assessment from the Beznau nuclear power plant. Immediately after having updated the risk hypotheses, ENSI requested new seismic safety assessments from Swiss nuclear power plants in three steps. The review of the safety assessments provided during the first step for an earthquake of a magnitude encountered once every 10 000 years was completed in February 2021. The documents related to the two other steps have already been or are being submitted to ENSI. These documents include the assessments mentioned by the Federal Tribunal concerning the Beznau nuclear power plant for an earthquake belonging to fault category 2, with an allowed dose limit of 1 mSv maximum. This is the reason why, based on the Federal Tribunal's judgment, ENSI has no obligation to request new assessments.

United States

Ninth Circuit decisions involving San Onofre Nuclear Generating Station (SONGS)

The United States (US) Court of Appeals for the Ninth Circuit issued two decisions involving challenges from the public interest group Public Watchdogs to various activities at SONGS, a three-unit site currently in decommissioning.

First, on 29 December 2020, the Ninth Circuit affirmed the lower court's decision to dismiss Public Watchdogs' complaint.[15] In August 2019, Public Watchdogs brought suit in the District Court for the Southern District of California against the licensees for SONGS, Holtec International (Holtec), the US Nuclear Regulatory Commission (NRC), and others seeking to enjoin allegedly negligent decommissioning activities at SONGS. Public Watchdogs challenged, among other matters, licence amendments that the NRC issued for SONGS in 2015 and the NRC's grant of a certificate of compliance for a dry cask spent fuel storage system to Holtec. By way of background, in 2015, the NRC amended the operating licences for Units 2 and 3 of SONGS to require the licensees to "[t]ake actions necessary to decommission the plant and continue to maintain the facility including … the storage,

15. Public Watchdogs v. Southern California Edison Co., 984 F.3d 744, 749 (9th Cir. 2020).

control, and maintenance of the spent fuel in a safe condition." The licensees elected to use dry cask storage from Holtec for storage of their spent nuclear fuel as part of their decommissioning plan. This Holtec system had been approved by the NRC through a certificate of compliance.

The District Court for the Southern District of California dismissed Public Watchdogs' complaint for lack of jurisdiction because, under the Hobbs Act, a court of appeals had exclusive jurisdiction to hear Public Watchdogs' claims.[16] The Ninth Circuit Court of Appeals then affirmed the lower court's decision to dismiss with prejudice. The Ninth Circuit affirmed that under the Hobbs Act, courts of appeals have exclusive jurisdiction to review "final orders" of the NRC. Such "final orders" include those entered in any proceeding for the "granting, suspending, revoking, or amending of any license … and in any proceeding for the issuance or modification of rules and regulations dealing with the activities of licensees."[17] The court held that the Hobbs Act must be read broadly to include not only all final NRC orders in licensing proceedings, but all NRC decisions that are preliminary, ancillary or incidental to licensing proceedings. The court concluded that all of Public Watchdogs' claims involved challenges to NRC decisions related to licensing. Consequently, the court affirmed the lower court's decision to dismiss the claims against the NRC with prejudice as Public Watchdogs' claims were encompassed under the Hobbs Act and therefore the lower court lacked jurisdiction to hear them.

Second, on 13 January 2021, the US Court of Appeals for the Ninth Circuit dismissed Public Watchdogs' challenge to the NRC's decision not to institute enforcement proceedings against an NRC licensee, as Public Watchdogs had requested pursuant to 10 Code of Federal Regulation (CFR) sec. 2.206 (the "2.206 Petition").[18] The 2.206 Petition, filed on 24 September 2019, requested the NRC halt all decommissioning activities, including the transfer of spent fuel to dry storage, at SONGS Units 2 and 3. The NRC's decisions not to take enforcement action against one of its licensees are presumptively unreviewable because they involve enforcement decisions that are committed to NRC's discretion by law. In order to rebut the presumption of unreviewability, Public Watchdogs needed to prove that the NRC "consciously and expressly adopted a general policy that is so extreme as to amount to an abdication of its statutory responsibilities" or identify a law limiting the NRC's discretion in declining to take enforcement action.

The court found that Public Watchdogs had done neither. First, Public Watchdogs failed to demonstrate that the NRC abdicated its duty to ensure that spent nuclear fuel is stored safely at SONGS. The court found that the NRC addressed the issues raised by Public Watchdogs, including the possibility that the federal government might never develop a permanent repository for spent nuclear fuel and, consequently, the possibility that fuel could be stored at nuclear reactor sites indefinitely, and also addressed safety concerns related to the specific dry cask storage system used at SONGS. Second, Public Watchdogs failed to point to any specific language in the NRC's regulations and policies indicating an intent to circumscribe the NRC's discretion in deciding whether to take enforcement action against one of its licensees. Therefore, the court dismissed the petition for review, finding that Public Watchdogs failed to rebut the presumption that the NRC's denial of the 2.206 Petition is unreviewable.

16. The Administrative Orders Review Act is more frequently referred to as the Hobbs Act. 42 *United States Code* (USC) 2239.
17. *Ibid.*; 28 USC 2239(a)(1)(A).
18. Public Watchdogs v. NRC, 833 F. App'x 460 (9th Cir. 2021). The public can ask the NRC to take enforcement action through 10 CFR 2.206, "Requests for action under this subpart." The 2.206 Petition process covers both NRC licensees and licensed activities, and requires that a request be submitted in writing, specify the action requested, and set forth the facts that constitute the basis for the request. If warranted, the NRC can take action to modify, suspend, or revoke a licence, or take other appropriate enforcement action to resolve a problem identified in a 2.206 petition.

Commission decisions in two licence transfer proceedings

The NRC issued two adjudicatory decisions involving a proposed licence transfer for a permanently shut down commercial reactor from the operator to a decommissioning specialist.[19] In each case, the licence transfer application provided that after the transfer, the decommissioning and spent fuel management activities would be entirely funded by the existing decommissioning trust fund.[20] The challenges to the licence transfers included claims that the transferee "lacked access to adequate funds for decommissioning."[21] These claims rested on the concern that unlike a traditional reactor operator, with access to an ongoing source of income from operations, the transferees would only have the decommissioning trust fund. If the fund was prematurely depleted, challengers argued, the transferee would be unable to safely complete required decommissioning and spent fuel management activities.[22] In response, the Commission confirmed that NRC regulations allow an applicant to rely "on a single funding source to establish that it is financially qualified to decommission a site."[23] Moreover, the Commission observed that the transferees could access further funding through recoveries from the US Department of Energy (DOE) for the "costs they will incur as a result of the DOE's breach of its obligations to dispose of" spent nuclear fuel onsite.[24]

The challengers also raised questions about whether the projected decommissioning costs were accurate in light of the potential for unforeseen expenses, which they suggested could also prematurely deplete the decommissioning trust funds.[25] Consistent with its previous case law, the Commission observed that it would "deem financial assurance to be acceptable if it is based on plausible assumptions and forecasts, even if 'the possibility is not insignificant that things will turn out less favorably than expected.'"[26] Thus, the Commission would only admit for hearing claims "based upon adequately supported assertions that a transfer applicant's financial assumptions and forecasts are implausible or unrealistic."[27] The Commission determined that none of the claims advanced by the challengers met this standard.[28] The Commission also noted that NRC regulations require licensees to submit to the NRC annual decommissioning cost estimates and that licensees must provide additional financial assurance to cover any shortfalls.[29]

19. Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Station, Units 1, 2, and 3 and ISFSI), CLI-21-1, 93 NRC __ (15 Jan. 2021) (slip op. at 3-5); Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), CLI-20-12 92 NRC __ (12 Nov. 2020) (slip op. at 3-6). The Commission's decision in the Indian Point licence transfer proceeding is the subject of litigation before the DC Circuit.
20. Indian Point, CLI-21-1, 93 NRC at __ (slip op. at 5-6); Pilgrim, CLI-20-12, 92 NRC at __ (slip op. at 8).
21. Pilgrim, CLI-20-12, 92 NRC at __ (slip op. at 18); Indian Point, CLI-21-1, 93 NRC at __ (slip op. at 48) ("According to New York, the companies' financial qualifications cannot be predicated solely on access to the Indian Point trusts.").
22. See Pilgrim, CLI-20-12, 92 NRC __ (slip op. at 18-19) (noting the concern that "the only asset … is the decommissioning trust fund"); Indian Point, CLI-21-1, 93 NRC at __ (slip op. at 51-52) (observing that "New York also argues, that because [transferees] lack funding independent of the decommissioning trusts, they would be poorly positioned to manage cost overruns").
23. Indian Point, CLI-21-1, 93 NRC at __ (slip op. at 49).
24. *Ibid.*
25. *Ibid.* at __ (slip op. at 21-48); Pilgrim, CLI-20-12, 92 NRC at __ (slip op. at 18-44).
26. Pilgrim, CLI-20-12, 92 NRC at __ (slip op. at 20) (quoting North Atlantic Energy Service Corp. (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 222 (1999)); e.g. Indian Point, CLI-21-1, 93 NRC at __ (slip op at 30).
27. Pilgrim, CLI-20-12, 92 NRC at __ (slip op. at 20).
28. Indian Point, CLI-21-1, 93 NRC at __ (slip op. at 76); Pilgrim, CLI-20-12, 92 NRC at __ (slip op. at 60).
29. Indian Point, CLI-21-1, 93 NRC at __ (slip op. at 30 n. 127); Pilgrim, CLI-20-12, 92 NRC at __ (slip op. at 20).

United States lawsuits related to the TEPCO Fukushima Daiichi nuclear power plant accident

Since the last three reports on lawsuits in US federal courts related to the 2011 TEPCO Fukushima Daiichi nuclear power plant accident,[30] all the lawsuits that had been litigated beginning in 2012 finally have come to an end. On 20 May 2021, the parties agreed to dismissals without prejudice of the last two lawsuits that had been unresolved in the US District Court for the Southern District of California[31] and the US District Court for the District of Columbia.[32] These last two actions had been stayed by agreement of the parties pending the final disposition of the appeals in Cooper v. Tokyo Electric Power Company, Inc. and General Electric Company[33] (the first Fukushima-related US lawsuit filed in 2012). On 29 March 2021, the US Supreme Court[34] denied without comment the *certiorari* petition filed by plaintiffs in the Cooper case, seeking to overturn the 22 May 2020 decision of the US Court of Appeals for the Ninth Circuit dismissing this Fukushima-related lawsuit on grounds of choice of law as to General Electric and international comity as to TEPCO.

Earlier, the plaintiffs in the separate case of Imamura v. General Electric Company let pass their 21 September 2020 deadline for filing a *certiorari* petition with the US Supreme Court[35] to challenge the 24 April 2020 decision of the US Court of Appeals for the First Circuit that affirmed the dismissal of Imamura by the US District Court for the District of Massachusetts on grounds of *forum non conveniens*.[36] The First Circuit said it affirmed, because the District Court did not abuse its discretion in finding that the judicial and administrative compensation schemes that are undisputedly available to plaintiffs rendered Japan an adequate alternative forum.

That finally ended the lawsuit brought in Boston on 17 November 2017. With all Japanese plaintiffs (as opposed to the US citizens and service members in Cooper v. TEPCO), the case for dismissal on grounds of *forum non conveniens* was easier to make in Imamura; still, it took almost three years of litigation.

Thus, all five US Fukushima-related lawsuits have come to an end on grounds of *forum non conveniens*, choice of law, and/or international comity after almost nine years of protracted litigation after the 11 March 2011 Fukushima Daiichi nuclear power plant accident.[37] As previously reported and described in detail, these lawsuits were initiated even though Japan's nuclear liability law channels liability for nuclear damage exclusively to nuclear operators and provides for unlimited liability (with the Japanese government

30. The backgrounds of and details about the US lawsuits can be found in the three earlier reports. NEA (2020), "United States lawsuits related to the TEPCO Fukushima Daiichi NPP accident," *Nuclear Law Bulletin*, No. 104, OECD Publishing, Paris, pp. 12-14; NEA (2019), "Cooper v. Tokyo Electric Power Company, Imamura v. General Electric Company, and other US lawsuits related to the TEPCO Fukushima Daiichi NPP accident," *Nuclear Law Bulletin*, No. 102, OECD Publishing, Paris, pp. 84-87; and, NEA (2017), "Cooper v. Tokyo Electric Power Company, No. 15-56426 (9th Cir. 2017)", *Nuclear Law Bulletin*, No. 99, OECD Publishing, Paris, pp. 73-74.
31. Park et al. v. Tokyo Electric Power Company, Inc. and General Electric Company, No. 18cv2121 (SD Calif., San Diego Div.).
32. Holland et al. v. Tokyo Electric Power Company, Inc. and General Electric Company, No. 18cv000573 (D.DC).
33. No. 19-55295 (9th Cir.); 960 F.3d 549 (9th Cir. 2020). On 1 July 2020, the Ninth Circuit issued an Order denying the 8 June 2020 Petition of Plaintiffs-Appellants for Rehearing and Rehearing-En-Banc of the 22 May 2020 decision of the Court's three-judge panel.
34. No. 20-730 (S.Ct.).
35. *Writs of certiorari* for review by the US Supreme Court must be applied for within ninety days after entry of the judgment of the court below. 28 US Code sec. 2101(c).
36. 957 F.3d 98 (1st Cir. 2020).
37. The fifth lawsuit was Bartel v. Tokyo Electric Power Company, Inc. and General Electric Company ("Bartel II"), No. 18cv537 (SD Calif., San Diego Div.). It was dismissed for lack of jurisdiction by the US Court of Appeals for the Ninth Circuit on 30 July 2019. No. 19-55442 (9th Cir.).

committing more than USD 76 billion to resolve Fukushima-related claims as of February 2021). They heretofore had been allowed to proceed because the United States and Japan were not both parties to the Convention on Supplementary Compensation for Nuclear Damage[38] at the time of the Fukushima nuclear power plant accident. Again, these lawsuits in US federal courts corroborate what can occur when there are not treaty relations mandating a single competent court in the territory where the nuclear incident occurred. Japan joined the CSC in 2015. Had Japan joined before the Fukushima Daiichi nuclear power plant accident, US courts would not have had jurisdiction to take ten years after the accident to resolve these lawsuits.[39]

38. Convention on Supplementary Compensation for Nuclear Damage (1997), IAEA Doc. INFCIRC/567, 36 ILM 1473, entered into force 15 Apr. 2015 (CSC). In the Cooper lawsuit, the US Court of Appeals for the Ninth Circuit held in 2017 that the CSC did not strip the California District Court of jurisdiction over claims arising from the Fukushima disaster, i.e. did not apply retroactively. 860 F.3d 1193, 1205 (9th Cir. 2017). On the other hand, the US Court of Appeals for the First Circuit noted the District Court in Imamura assumed arguendo that it had jurisdiction to hear the case despite the exclusive jurisdiction provision of the CSC. The First Circuit's decision said, "Because we agree with the district court's *forum non conveniens* ruling, we leave the issue of the CSC's exclusive jurisdiction provision for another day."
39. See CSC, Art. XIII.

NATIONAL LEGISLATIVE AND REGULATORY ACTIVITIES

Belarus

Nuclear safety and radiological protection (including nuclear emergency planning)

The "Law on Radiation Safety", No. 198-3 of 18 June 2019 entered into force in 2020, which annulled the previous "Law on Radiation Safety of the Population" of 5 January 1998.

According to the "Law on Radiation Safety", the Ministry on Emergency Situations of the Republic of Belarus approved Resolution No. 7 "On criteria for assigning supervised facilities to a risk group to schedule routine inspections", on 8 February 2021, which established three groups of risk: high, medium, low.

Nuclear security

Development of the nuclear security state system for nuclear facilities

Decision No. 385 of 14 June 2019 from the Council of Ministers of the Republic of Belarus "On the Physical Protection of Nuclear Facilities" has entered into force. The previous decisions of the Council of Ministers of the Republic of Belarus from 24 May 1993, No. 338 "On Measures for the Physical Protection of Nuclear Materials", and from 27 September 2010, No. 1385 "On Approval of Provisions on Physical Protection of Nuclear Facilities", were annulled.

This Decision defines and regulates:

- purposes of provision and support for physical protection;
- basic tasks and requirements for physical protection during construction, commissioning, operation and decommissioning of nuclear facilities and/or storage sites;
- basic tasks and requirements for provision for physical protection of nuclear materials, spent nuclear materials, operating radioactive wastes during transportation;
- requirements to inform about unauthorised actions and emergency situations;
- basic requirements about technical and engineering means for physical protection.

It also determines categories of consequences for unauthorised actions, as well as for nuclear materials.

Canada

Nuclear safety and radiological protection (including nuclear emergency planning)

Regulatory Document REGDOC-2.2.4, "Fitness for Duty, Vol. II: Managing Alcohol and Drug Use", Version 3

Requirement for licensees of high-security sites to implement policies for alcohol and drug testing as part of their human performance programs to ensure workers' fitness for duty

In January 2021, the Canadian Nuclear Safety Commission (CNSC) published version 3 of REGDOC-2.2.4, "Fitness for Duty, Vol. II: Managing Alcohol and Drug Use". Part of the CNSC's human performance management series of regulatory documents, this document sets out the parameters for required policies of licensees of high-security sites, in order to manage worker fitness for duty with respect to alcohol and drug use. The requirements include the imposition of drug and alcohol testing.

A prior version of this REGDOC was issued in 2018, which introduced programme requirements for drug and alcohol testing. In October 2018, Canada legalised cannabis. The licensees that were subject to the REGDOC thereafter sought its amendment, in light of the legalisation of cannabis and in light of different testing methodologies. After a public meeting in November 2020, the Commission amended the REGDOC. As a result of its publication in January 2021, the affected licensees are expected to have programmes in place that conform to the specifications in the REGDOC within 6 months, respecting most of its parameters, and within 12 months respecting the random testing policy requirement.

The REGDOC sets out general requirements for behavioural observation, assessment, training and education, and specifies that the workers who are subject to alcohol and drug testing are only those in "safety-sensitive" or "safety-critical" positions, as defined in the document. Alcohol and drug testing is required in specific circumstances:

- as a precondition for placement in a safety-critical position;
- for cause, on reasonable grounds;
- post-incident, after a significant incident where human act or omission by the worker may have caused or contributed to the incident;
- follow-up after confirmation of a substance use disorder, as part of a reinstatement process;
- random testing of workers in safety-critical positions.

Licensees are required to put in place policies that conform to this REGDOC, as the REGDOC will be a measure against which their human performance programmes will be evaluated, after the 6- to 12-month implementation period noted above.

It is of note that at the time of writing, the licensees to which this REGDOC applies are in a labour arbitration process with their unionised employees. Within the arbitration process, the Attorney General of Canada was served in March 2021 with a Notice of Constitutional Question indicating that the unions intend to assert that the CNSC's regulatory document violates sections 7, 8 and 15 of the Canadian Charter of Rights and

Freedoms.[1] Given the fact that the constitutionality of the REGDOC is under legal challenge, the matter may take some time to be resolved through the judicial process.

Finland

General legislation, regulations and instruments

Renewal of nuclear energy legislation underway

Nuclear energy plays a major role in the implementation of the Finnish Climate and Energy Strategy, as it is carbon-neutral and contributes to the security of electricity supply. A third of the electricity produced in Finland comes from nuclear energy. At present, there are four operating nuclear reactors in Finland: two in Loviisa and two in Olkiluoto. A fifth reactor (Olkiluoto 3) was issued an operating licence in March 2018 and is now in the commissioning phase. A construction licence application for a sixth reactor (Hanhikivi 1) has been submitted. Further, Posiva has received a construction licence for a final disposal facility (ONKALO) for high-level radioactive waste, and it is now under construction in Olkiluoto. In addition, the government has launched a research project on the possibilities and challenges concerning small modular reactors (SMRs).

The Nuclear Energy Act (990/1987) and the accompanying Nuclear Energy Decree (161/1988) came into force in 1987. Since then they have been amended dozens of times, and additional environmental, land use planning and other national and European Union legislation relevant for nuclear facilities has been developed. As a result, the legislative framework for nuclear energy is nowadays very complex and contains many ambiguities. A comprehensive reform of Finnish nuclear energy legislation is needed, also due to changes in the operating environment of nuclear facilities and in view of expected developments.

The Ministry of Economic Affairs and Employment (TEM) is responsible for developing the legislation on nuclear energy, as well as for the supervision of nuclear power operation and other activities in the field of nuclear energy, including the National Nuclear Waste Management Fund. The Radiation and Nuclear Safety Authority (STUK) is responsible for detailed regulation, inspection, supervision and assessment of construction and operation of nuclear power plants and other nuclear installations, e.g. waste management facilities.

1. Canadian Charter of Rights and Freedoms, s. 7, Part 1 of the Constitution Act, 1982, being Schedule B to the Canada Act 1982 (UK), 1982, c. 11. The specific allegations of unconstitutionality are as follows, with respect to the drug and alcohol testing requirements of the regulatory document:
   - Section 7 is the "right to life, liberty and security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice." The allegation is that the testing regime deprives union members of their bodily integrity and privacy in a manner that does not accord with the principles of fundamental justice because of vagueness, arbitrariness, overbreadth and disproportionality.
   - Section 8 is the "right to be secure against unreasonable search or seizure." The allegation is that the testing requirements infringe the privacy interest of union members and constitute unreasonable search.
   - Section 15 is the equality right, guaranteeing "equal protection and equal benefit of the law without discrimination and, in particular, without discrimination based on race, national or ethnic origin, colour, religion, sex, age or mental or physical disability." The claim is that the regulatory document discriminates against nuclear workers on the basis of disability.

In 2019, TEM appointed a working group to prepare for the legislative reform. The working group presented its report in August 2020. According to the report, the key principles of the comprehensive legislative reform would be as follows:

- Finland will continue to ensure compliance with international agreements, commitments and best practices related to the use of nuclear energy.
- The existing licensing scheme covering the life cycle of a nuclear facility should be continued, respecting democratic decision-making in a transparent and effective manner, but at the same time it requires several improvements (e.g. identification of the appropriate stage for detailed assessment, increasing the certainty for acceptable solutions in advance, and the best way to address the decommissioning stage in the licensing scheme).
- Requirements and expectations for nuclear safety and technology need to be clear at different stages of the life cycle of a nuclear plant or other nuclear installation and take into account the potential risk to people, environment and the society.
- The definitions need to be concise and facilitate the understanding of provisions.

TEM has continued discussions with STUK and other stakeholders on various topics, e.g. reactor and reactor site pre-assessments, safeguards of nuclear materials, licences to operate and to decommission a nuclear power plant, activities of the supervising authority, devices and systems used in nuclear power plants, and new approaches needed for new concepts, e.g. SMR development. The first results of these discussions are expected to be available by early 2022. Simultaneously, STUK is carrying out a reform of STUK's nuclear safety regulations and guidelines, and a more detailed schedule will be specified by the beginning of 2022.

Today, it is evident that the renewal of the legislation on nuclear energy will take many years. The upcoming National Climate and Energy strategy will be expected to contain a statement to boost the renewal process.

Switzerland

Nuclear safety and radiological protection (including nuclear emergency planning)

Study on extreme flood events on the River Aare (EXAR)

The study on extreme flood events on the River Aare provides a new basis for assessing the hazards posed by flooding, even in the case of very rare events.

In March 2011, a tsunami at the Fukushima Daiichi nuclear power plant caused a severe accident. In the aftermath, several services and agencies of the Swiss Federal Administration decided to draw up a common basis for reassessing the hazard posed by extreme flood events in the Aare catchment area. The offices involved were the Federal Office for the Environment, the Swiss Federal Office of Energy, the Federal Office of Meteorology and Climatology, the Federal Office for Civil Protection and the Swiss Federal Nuclear Safety Inspectorate (ENSI).

Thanks to the study on extreme flooding on the River Aare, co-ordinated by the Swiss Federal Institute for Forest, Snow and Landscape Research, data is now available on hazards in the catchment area, including 100 000-year flood events. As part of the study, a detailed local hazard analysis was carried out for each of the Mühleberg, Gösgen and Beznau nuclear power stations and for the Paul Scherrer Institute site, which is the location of the Interim Storage Facility for Radioactive Waste.

According to ENSI, the water levels relevant for the safety analyses relating to the nuclear power facilities are in a similar range to those in the previous analyses. ENSI will ask the operators of the nuclear facilities to revise their safety analyses on the basis of the present study, as provided for in the regulations.

Modernisation of civil protection and civil defence

On 1 January 2021, the totally revised Civil Protection and Civil Defence Act[2] came into force. The complete revision of the law will improve the leadership, co-ordination and operational capabilities of civil protection organisations in the event of a crisis. It creates new legal foundations for the Federal Civil Protection Crisis Management Board, the federal co-ordination body for civil protection (Article 7) and for the National Emergency Operations Centre (Article 10). The provisions on issuing warnings, raising the alarm and providing information in the event of an incident have been updated (Article 9) and requirements have been put in place for a secure national data network system (Article 19).

At the same time as the Act, the new Civil Protection Ordinance[3] came into force. It replaces several ordinances and provides clear regulations on the overall organisation of operations in the event of any danger caused by increased levels of radioactivity (Article 2) and on the tasks of the National Emergency Operations Centre (Articles 6 to 16) in general as well as in the event of any danger caused by increased levels of radioactivity (Article 7). Also updated were the regulations on taking samples and measurements (Annex 1) and the concept for countermeasures based on the dose level (Annex 2). These now include a table on immediate measures that are not based on dose thresholds.

United Arab Emirates

Nuclear trade (including non-proliferation)

Regulation on the Export and Import Control of Nuclear Material, Nuclear Related Items and Nuclear Related Dual-Use Items (FANR-REG-09, Version 1)

The Federal Authority for Nuclear Regulation (FANR) issued a revised Regulation on the Export and Import Control of Nuclear Material, Nuclear Related Items and Nuclear Related Dual-Use Items (FANR-REG-09, Version 1) on 31 March 2021. The regulation was published in the *Official Gazette* No. 702 issued on 16 May 2021 and it entered into force on 16 June 2021.

This regulation aims to strengthen the regulation initially issued in 2015 and to draw on the lessons learnt from the implementation of the initial requirements relating to export and import controls. The regulation applies to the import, export, re-export, transit and transhipment (designated hereinafter as transfers) of nuclear material, nuclear-related items and nuclear-related dual-use items as specified in Nuclear Suppliers Group's *Guidelines for the Export of Nuclear Material, Equipment and Technology*, as amended (INFCIRC/254/Part 1) and the Nuclear Suppliers Group's *Guidelines for Transfers of Nuclear-related Dual-use Equipment, Materials, Software and Related Technology*, as amended (INFCIRC/254/Part 2). It establishes the requirements applicable to the persons or entities involved in the transfer on such nuclear material and items to ensure their exclusively peaceful use.

The regulation subjects the transfer of such items and nuclear material to either licensing or consent and require further notifications and approvals prior to each import and export within specific timelines. Further, it specifies the licensing criteria and the respective obligations of those subject to this regulation including in terms of reports and records.

2. *Recueil systématique du droit fédéral* (RS) [Classified Compilation of Federal Legislation] 520.1, *Loi fédérale du 20 décembre 2019 sur la protection de la population et sur la protection civile* (LPPCi).
3. RS 520.12, *Ordonnance du 11 novembre 2020 sur la protection de la population* (OProP).

Nuclear safety and radiological protection (including nuclear emergency planning)

Regulation for Emergency Preparedness and Response for Nuclear Facilities (FANR-REG-12, Version 1)

FANR issued a revised Regulation for Emergency Preparedness and Response for Nuclear Facilities (FANR-REG-12, Version 1) on 30 December 2020. The revised regulation was published in the *Official Gazette* No. 698 issued on 15 March 2021 and entered into force on 15 April 2021.

The revised regulation, which takes into account the International Atomic Energy Agency (IAEA) Safety Standards, *Preparedness and Response for a Nuclear or Radiological Emergency, General Safety Requirements*, No. GSR Part 7 (2015), addresses the preparation, planning for and implementation of emergency response at a nuclear facility; the establishment of an onsite response organisation; and the development of arrangements and co-ordination mechanisms for both onsite and offsite emergency response. It includes in particular new requirements relating to the conduct of hazard assessments, the classification and notification of an emergency class within a specific timeframe, the termination of an emergency, the transition to planned or existing exposure situation, radioactive waste management and infrastructure.

Regulation for Security of Radioactive Sources (FANR-REG-23, Version 1)

FANR issued a revised Regulation for Security of Radioactive Sources (FANR-REG-23, Version 1) on 30 December 2020. The revised regulation was published in the *Official Gazette* No. 698 issued on 15 March 2021 and entered into force on 15 April 2021.

The revised regulation takes into account the IAEA *Nuclear Security Recommendations on Radioactive Material and Associated Facilities*, IAEA Nuclear Security Series No. 14 (2011) and develops specific requirements relating to the use, handling, storage and transport of Category 1 to Category 3 radioactive sources, as well as to the import and export of Category 1 and Category 2 radioactive sources and specifies that other radioactive sources must be protected in accordance with prudent management practices.

The regulation addresses, *inter alia*, the requirements relating to the security plan and transport security and for a security system that includes detection, delay and response measures with the objective to protect the radioactive sources from unauthorised acts such as unauthorised access, use, removal or transfer, and theft or sabotage.

Regulation on the Registration and Licensing of Radiation Sources (FANR-REG-29, Version 0)

FANR issued a new Regulation on the Registration and Licensing of Radiation Sources (FANR-REG-29, Version 0) on 30 December 2020. The regulation was published in the *Official Gazette* No. 698 issued on 15 March 2021 and entered into force on 15 April 2021.

This new regulation applies to the planning, conduct, modification and termination of all activities involving radiation sources. The regulation aims to establish the licensing requirements to be applied following a graded approach and includes specific provisions establishing exemption criteria and the corresponding requirements applicable to radiation sources exempted from all or part of regulatory control.

All the above-mentioned regulations are available in English on the FANR website.[4]

4. FANR (n.d.), "Regulations", www.fanr.gov.ae/en/rules-regulations/regulations-guides/regulations (accessed 10 Sept. 2021).

United States

Nuclear safety and radiological protection (including nuclear emergency planning)

Regulatory actions taken in response to the COVID-19 pandemic

During the COVID-19 pandemic, the US NRC staff has taken a number of steps to identify certain NRC regulations that are challenging during the pandemic, and the areas where temporary flexibilities, such as exemptions, would not compromise the ability of licensees to maintain the safe and secure operation of NRC-licensed facilities.

In the spring of 2020, the NRC issued letters in seven topical areas that described the criteria for expedited NRC review of exemption and relief requests that are related to the pandemic. Broadly speaking, the letters covered the topical areas of work-hour controls, owner's activity reports, operator licensing, annual force-on-force exercises, respiratory protection requirements, emergency preparedness and fire protection.

On 10 November 2020, the NRC issued a letter to provide guidance on the continued use of expedited processes beyond 31 December 2020 for COVID-19-related requests in these seven topical areas. Enclosures to the letter addressed informational needs for each of the seven topical areas to facilitate the continued use of the NRC's expedited review process, such as providing justifications for the exemptions requested due to COVID-19 pandemic challenges and information related to the potential cumulative effects of these exemptions.

Additionally, on 15 September 2020, the NRC staff briefed the Commission on the NRC's response to the COVID-19 pandemic, including licensing and oversight activities, the use of technology, public engagement, and strategies to overcome ongoing and emergent challenges.

Between 1 October 2020 and 31 December 2020, the NRC issued 105 licensing actions granting temporary flexibilities to maintain the safe and secure operation of nuclear reactor and nuclear materials licensees. More information on these licensing actions as well as the NRC's general response to the COVID-19 pandemic is available on the NRC public website.[5]

General legislation, regulations and instruments

10 CFR Part 53

Consistent with Section 103 of the Nuclear Energy Innovation and Modernization Act (NEIMA),[6] the NRC staff has been working on developing a technology-inclusive regulatory framework for commercial advanced nuclear reactors that would be a new part to Title 10 of the *Code of Federal Regulations* (10 CFR Part 53).[7] On 2 October 2020, the Commission approved the staff's proposed rulemaking approach. On 6 November 2020, the NRC solicited public comment on the 10 CFR Part 53 preliminary proposed rule language.[8] The public comment period will remain open until 5 November 2021. Ultimately, after reviewing public comments and input from the Commission, NRC staff plans to issue the final rule by October 2024.

5. NRC (2021), "NRC COVID-19 Update", www.nrc.gov/about-nrc/covid-19/index.html (accessed 10 Sept. 2021).
6. Nuclear Energy Innovation and Modernization Act (NEIMA), P.L. 115-439, 132 Stat. 5565 (14 Jan. 2019), available at: www.congress.gov/bill/115th-congress/senate-bill/512.
7. Public Law 115-439, 132 Stat. 5565.
8. Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors, 85 *Federal Register* 71002, 71002 (6 Nov. 2020).

Nuclear installations

General Electric Hitachi – Global Laser Enrichment, LLC (GLE) reorganisation

On 18 February 2020, General Electric Hitachi – Global Laser Enrichment, LLC (GLE) requested a new Facility Clearance (FCL) governing the possession and use of classified information at the GLE facility in Wilmington, North Carolina. GLE requested a new FCL to reflect a potential change in ownership of GLE then under negotiation. On 31 January 2021, this change in ownership was finalised. GLE became a 100% foreign-owned subsidiary, Global Laser Enrichment Holdings LLC, jointly owned by the Australian company Silex Systems and the Canadian company Cameco Corporation. As a result of this change, the NRC terminated, at the request of the licensee, the existing GLE licence and FCL. The NRC also immediately issued the new foreign-owned GLE an FCL. This is the first time that the NRC has issued an FCL to a 100% foreign-owned entity.

INTERGOVERNMENTAL ORGANISATION ACTIVITY

European Atomic Energy Community (Euratom)

Euratom Community activities

Agreements between the United Kingdom and the European Union and the Euratom Community in the nuclear field

The United Kingdom withdrew from the European Union and the Euratom Community on 31 January 2020. Following negotiations throughout 2020, on 24 December 2020 the Trade and Cooperation Agreement between the EU and Euratom, on the one part, and the United Kingdom, on the other part, (the "TCA") and an Agreement between the United Kingdom and Euratom for Cooperation on the Safe and the Peaceful Uses of Nuclear Energy (the "Euratom Agreement") were agreed at the negotiators' level. Both agreements were then signed on 30 December 2020 and published in the *Official Journal of the European Union* (OJ) on 31 December 2020.[1]

Given the exceptional situation of the United Kingdom with regard to the European Union and Euratom, and the urgency of the situation with the transition period ending on 31 December 2020, the TCA, including as regards matters falling under the Euratom Treaty, is applicable on a provisional basis as from 1 January 2021, pending the completion of the procedures necessary for its entry into force. The Euratom Agreement is also applicable on a provisional basis as from 1 January 2021.

The TCA covers certain matters falling under competences of the Euratom Community, namely the association to the Euratom Research and Training programmes. The association is performed through a Protocol to Part Five of the TCA, which still needs to be adopted by the relevant Specialised Committee established under the TCA.

The Euratom Agreement provides for wide-ranging co-operation on safe and peaceful uses of nuclear energy, underpinned by commitments by both sides to comply with international non-proliferation obligations and to uphold a high level of nuclear safety standards. This Agreement facilitates/covers, *inter alia*:

- the supply and transfer of nuclear material, non-nuclear material, technology and equipment;
- trade and commercial co-operation relating to the nuclear fuel cycle;
- co-operation and exchange of information in areas of mutual interest such as nuclear safeguards, physical protection, nuclear safety and radiation protection, including emergency preparedness and response;

1. Trade and Cooperation Agreement Between the European Union and the European Atomic Energy Community, of the one part, and the United Kingdom of Great Britain and Northern Ireland, of the other part, OJ L444 (31 Dec. 2020), p. 14; Agreement Between the Government of the United Kingdom of Great Britain and Northern Ireland and the European Atomic Energy Community for Cooperation on the Safe and Peaceful Uses of Nuclear Energy, OJ L 445 (31 Dec. 2020), p. 5.

- the safe management of spent fuel and radioactive waste and the use of radioisotopes and radiation in agriculture, industry and medicine;
- geological and geophysical exploration; development, production, further processing and use of uranium resources; co-operation on regulatory aspects of the peaceful use of nuclear energy;
- research and development, allowing the United Kingdom to continue to participate in the ITER project through the Joint Undertaking Fusion for Energy.

Nuclear safeguards provisions are foreseen in the Euratom Agreement to ensure that both parties adhere to their non-proliferation commitments[2] and that co-operation serves only peaceful purposes. This includes the exchange of notifications and consents when nuclear items are transferred.

The Euratom Agreement also allows for continued co-operation between the Euratom Community and the United Kingdom in the subject matters covered by established Community systems for monitoring and exchanging information on levels of radioactivity in the environment, including the European Community Urgent Radiological Information Exchange and the European Radiological Data Exchange Platform, and established expert advisory groups in the field of nuclear safety, including the European Nuclear Safety Regulators Group. It contains a dispute settlement mechanism, which is typical of other existing Euratom Nuclear Cooperation Agreements and which is separate from the one foreseen in the TCA.

International Atomic Energy Agency (IAEA)

Nuclear safety

Meeting of Officers for the Eighth Review Meeting of Contracting Parties to the Convention on Nuclear Safety (CNS)

Due to national and international measures taken to limit the spread of the virus causing COVID-19, the Eighth Review Meeting of the Convention on Nuclear Safety,[3] scheduled from 23 March to 3 April 2020, was postponed for the second time, in December 2020. In addition, contracting parties decided to merge the Eighth and the Ninth Review Meetings and to hold the Joint Meeting in Vienna, Austria, from 23-31 March 2023.

A virtual Officers' Meeting was held from 23-25 March 2021, wherein the officers of the CNS Eighth Review Meeting discussed a plan of further actions in detail, including a framework for wrapping up the eighth review cycle in 2021 and merging the Eighth and the Ninth Review Meetings in 2023, as well as modalities of the Organizational Meeting planned to be held in October 2021 and its provisional agenda.

2. In 2018, the United Kingdom and the International Atomic Energy Agency (IAEA) signed an "Agreement between the United Kingdom of Great Britain and Northern Ireland and the International Atomic Energy Agency for the Application of Safeguards in the United Kingdom of Great Britain and Northern Ireland in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons". The text of the Agreement is reproduced in IAEA *Information Circular* INFCIRC/951 (12 Jan. 2021).
3. Convention on Nuclear Safety (1994), IAEA Doc. INFCIRC/449, 1963 UNTS 293, entered into force 24 Oct. 1996 (CNS).

Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Joint Convention)

In March 2021, contracting parties to the Joint Convention[4] decided to hold the Fourth Extraordinary Meeting, which had been postponed in 2020 without determining a date, as an in-person meeting in Vienna, Austria from 14-16 February 2022.

Nuclear security

Preparatory Committee (PrepCom) for the Conference of the Parties to the Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM)

The IAEA convened two virtual meetings of the PrepCom for the Conference of the Parties to the Amendment to the CPPNM,[5] from 7-11 December 2020 and on 1 February 2021. The PrepCom undertook formal preparations including with respect to a draft Rules of Procedure and draft agenda for the Conference, which as foreseen in Article 16.1 of the CPPNM as amended, is to review the implementation of the Convention and its adequacy as concerns the preamble, the whole of the operative part and the annexes in the light of the then-prevailing situation. The PrepCom further decided, in light of the ongoing constraints related to the COVID-19 pandemic, to postpone the Conference, initially scheduled for 2021, to the week of 28 March 2022.

Technical Meeting of the Representatives of States Parties to the CPPNM and the CPPNM Amendment

The IAEA organised the sixth Technical Meeting of the Representatives of Parties to the CPPNM and its Amendment,[6] which took place virtually in December 2020. Participants discussed matters within the scope of the CPPNM and its Amendment and shared experiences and lessons learnt with respect to the implementation of treaty commitments and responsibilities. Among other topics, the meeting covered the role of national points of contact and competent authorities with respect to matters within the scope of the CPPNM and its Amendment, as well as fulfilling the obligation to provide information on laws and regulations giving effect to the CPPNM (including as amended) pursuant to Article 14.1 thereof.

E-learning course on the International Legal Framework for Nuclear Security

The IAEA launched a new e-learning course providing an introduction to the international legal framework for nuclear security. The course is designed, *inter alia*, to raise awareness regarding the legally binding and non-binding instruments that make up the framework and to support the universalisation of the CPPNM and its Amendment.

Nuclear liability

During the reporting period, the IAEA continued to assist member states, upon request, in their efforts to adhere to the relevant nuclear liability instruments adopted under IAEA auspices, in the context of its overall legislative assistance programme and in line with the recommendations on how to achieve a global nuclear liability regime adopted in 2012 by the IAEA International Expert Group on Nuclear Liability (INLEX) under the IAEA Action Plan on Nuclear Safety (GOV/2011/59GC(55)/14).

4. Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (1997), IAEA Doc. INFCIRC/546, 2153 UNTS 357, entered into force 18 June 2001.
5. Convention on the Physical Protection of Nuclear Material, (1980), IAEA Doc. INFCIRC/274 Rev. 1, 1456 UNTS 125, entered into force 8 Feb. 1987 (CPPNM).
6. Amendment to the Convention on the Physical Protection of Nuclear Material (2005), IAEA Doc. INFCIRC/274/Rev.1/Mod.1, entered into force 8 May 2016.

In October 2020, following a request made by Canada on behalf of the Contracting Parties to the Convention on Supplementary Compensation for Nuclear Damage,[7] the IAEA accepted to convene future meetings of the Contracting Parties and Signatories to the CSC on a regular basis. For this purpose, a preparatory meeting was held on 24 February 2021 as a virtual meeting: at the preparatory meeting, CSC Contracting Parties and Signatories adopted Terms of Reference for their future meetings and took a number of other decisions to prepare for the convening of their next meeting prior to the end of 2021, or in early 2022.

On 27 April 2021, a Workshop on Civil Liability for Nuclear Damage was held as a virtual workshop with the assistance of members of INLEX. The purpose of the workshop was to provide diplomats and experts from IAEA member states with an overview of the international legal regime on nuclear liability.

The 21st regular meeting of INLEX, which was opened by the Director-General, took place as a virtual meeting on 28-30 April 2021. At the meeting, the Group discussed, *inter alia*, liability issues concerning nuclear fusion facilities, the limitations on the operator's right of recourse under the nuclear liability conventions, and the exclusion of the operator's liability for onsite property damage. No definitive conclusions were reached on any of these items and the Group decided to continue to discuss them at their next meeting.

Legislative assistance

The IAEA continued to provide legislative assistance to member states through workshops, missions, and meetings to raise awareness, advise, and train on developing and revising national legislation and adhering to and implementing the relevant international legal instruments.

Specific bilateral legislative assistance was provided to several member states through written comments and advice on drafting national nuclear legislation. Owing to COVID-19-related restrictions, the 2020 session of the annual Nuclear Law Institute (NLI) inter-regional training event was postponed. A video celebrating the tenth anniversary of the NLI was launched during the margins of the 64th regular session of the General Conference. The video highlighted the impact of the NLI programme over the past decade in helping member states to acquire a solid understanding of nuclear law and to develop the necessary skills to draft, amend and review national nuclear legislation.

As an online alternative to some in-person activities due to the COVID-19-related restrictions, assistance in gaining more broadly a better understanding of the relevant international legal instruments and the elements of comprehensive national nuclear legislation, was provided through virtual means.

Finally, from October to December a new series of interactive webinars on nuclear law amassed over 2 500 streams, with participation from officials from over 100 countries. Given the success of this series and in response to expressed interest from industry, law firms, NGOs, civil society and academia, a webinar was held in December for the general public entitled "Nuclear Law in Practice: The IAEA Perspective".

OECD Nuclear Energy Agency (NEA)

Bulgaria becomes the NEA's 34th member

On 1 January 2021, Bulgaria became the newest member of the OECD NEA and its Data Bank. Bulgaria currently has one nuclear power plant at Kozloduy with two water-cooled, water-moderated energy reactor (VVER, Russian acronym) units that generate about one-third of the country's electricity. The country has ongoing plans to build a new unit at the Kozloduy site and two more units at the Belene site. With several decades of VVER experience, Bulgaria will reinforce the NEA's capacity to address matters related to

7. Convention on Supplementary Compensation for Nuclear Damage (1997), IAEA Doc. INFCIRC/567, 36 ILM 1473, entered into force 15 Apr. 2015 (CSC).

pressurised water reactor technologies and their operational characteristics. At the same time, the NEA will support Bulgaria's efforts in many technical and policy areas, including work to address nuclear skills capacity building needs in the country, the development and application of nuclear data and simulation codes, and many issues related to radioactive waste management, decommissioning and nuclear economics.

NEA Nuclear Law Committee meeting

The NEA Nuclear Law Committee (NLC) met remotely on 9-11 June 2021 to review the ongoing activities of the NEA Office of Legal Counsel and the NLC working parties on nuclear liability and transport, deep geological repositories and nuclear liability, and the legal aspects of nuclear safety. The meeting was attended by 90 participants representing 28 NEA member countries, five partner countries, the IAEA, the European Commission (EC) and the insurance industry.

Participants discussed the current and future NEA activities relating to small modular reactors (SMRs), the progress made on the forthcoming reports of the Third and Fourth International Workshops on the Indemnification of Damage in the Event of a Nuclear Accident and the latest status of case law regarding the Fukushima Daiichi nuclear power plant accident. They were informed about new initiatives to establish claims handling processes in case of nuclear incidents. In addition, the discussion touched on the adoption of the Guidance on the applicability of the Espoo Convention to the lifetime extension of nuclear power plants. The meeting agenda also featured a presentation by the United Kingdom on post-Brexit nuclear co-operation agreements and a presentation by a representative of the General Insurance Corporation of India on the policies available to nuclear operators and suppliers in India.

The Contracting Parties to the Paris Convention on Third Party Liability in the Field of Nuclear Energy also met remotely on 24 June 2021 to discuss the interpretation and implementation of the Paris Convention and the Brussels Convention Supplementary to the Paris Convention. They also discussed the final steps towards the ratification of the 2004 Protocols to amend both conventions in order for them to enter into force and took note of the relevant national provisions adopted in order to implement those protocols. Entry into force for the 2004 Protocol is expected on 1 January 2022.

Meeting of the NEA Working Party on the Legal Aspects of Nuclear Safety (WPLANS)

The WPLANS held a virtual meeting on 19-20 May 2021 with 48 participants from 19 NEA member countries, four non-NEA member countries and the IAEA. The first day of the meeting featured discussions on national developments relating to the legal aspects of nuclear safety, legal issues related to long-term operation/lifetime extension of nuclear power reactors, and the licensing and regulation of small modular and advanced reactors. The second day of the meeting focused on challenges to licensing and the enforcement of nuclear safety-related laws and regulations.

In tandem with the WPLANS meeting, an internal workshop was held to discuss the results of an extensive survey on legal challenges related to nuclear safety, during which the participants exchanged information about their respective legal frameworks for such challenges and discussed potential next steps in their work plan.

Meeting of the NEA Working Party on Nuclear Liability and Transport (WPNLT)

The WPNLT held a virtual workshop on "The Qualification of Nuclear Substances and Nuclear Liability" on 29-30 March 2021 with more than 70 experts representing 19 member countries, two non-NEA member countries, the EC and the IAEA. Representatives from the nuclear insurance industry, the World Nuclear Association and the World Nuclear Transport Institute also participated. During the two-day event, the participants discussed the insurance-related, legal and technical challenges associated with the qualification of nuclear substances during transport and its impact on the organisation of the insurance

to cover such transport, as well as practical solutions to those challenges. They also addressed the practical implementation of the exclusions of nuclear substances from the scope of the application of international nuclear liability conventions. In this context, there was a common agreement on the need to work towards a common understanding of which nuclear substances are covered by, or excluded from, the nuclear liability conventions and the applicable national nuclear liability regimes.

NEA Global Forum on Nuclear Education, Science, Technology and Policy

Over the years the NEA has had little direct engagement with academic institutions that are responsible for developing the next generation of nuclear science and technology experts. Furthermore, these academic institutions lack a global platform to exchange experiences and co-operate towards common goals. To address these gaps, the NEA has established the NEA Global Forum on Nuclear Education, Science, Technology and Policy, which entered into force on 28 January 2021. A Global Forum is a framework within the OECD for policy dialogues with broader communities of stakeholders that are not necessarily member country governmental bodies. Currently, 15 Global Fora exist under the OECD framework and the Global Forum on Nuclear Education, Science, Technology and Policy is the first to be launched by the NEA.

The NEA Global Forum on Nuclear Education, Science, Technology and Policy will provide a platform for sustained co-operation amongst academic institutions, policymakers and key stakeholders in the nuclear energy sector and civil society. It will be led by the Council of Advisors comprising representatives from academic and training institutions in NEA member countries.

The Global Forum will aim to identify good practices, facilitate shared activities and co-ordinate joint programmes of investigation to advance nuclear science and technology education and policy in member countries of the NEA. It will also conduct periodic symposia to serve as venues for experts from academic institutions and representatives of NEA member countries, as well as other stakeholders worldwide, to exchange good practices and identify emerging issues and creative solutions to some of the most significant challenges the nuclear energy sector faces today.

On 23 April 2021, approximately 60 participants representing 20 academic institutions from NEA member countries and international organisations and networks met for the first formal meeting conducted under the auspices of the Global Forum. The meeting built on the dialogues held in 2019 and 2020 during the exploratory stages of this initiative. As such, the Council of Advisors discussed the future directions of the Forum and explored potential future working areas. These included: 1) achieving gender balance in the nuclear sector; 2) the future of nuclear education; 3) future requirements for the competitiveness of nuclear; and 4) rethinking the relationship between nuclear energy and society. Going forward, the Council will also consider a fifth working area on digital technologies for the nuclear industry.

A new NEA joint undertaking: FIDES

A series of workshops organised by the NEA that brought together participants from utilities, fuel vendors, regulatory bodies and their technical support organisations, research institutes, and experimentalists confirmed that a multinational framework was required to address current and future experimental needs. Launched by the NEA in response to the recent closures of irradiation research facilities such as the Halden Reactor in Norway, a new NEA joint research undertaking – the Framework for IrraDiation ExperimentS (FIDES) was formed to preserve and strengthen the global fuel and materials experimental capacity to the benefit of a broad community of users from around the world.

The framework will support the experimental needs of nuclear safety regulators, technical support organisations, research institutions and industry by establishing a network of research facilities in order to perform high priority experiments to verify the safety and performance of fuels and materials. It will thus help preserve the remaining facilities as well as the related experimental know-how for future generations. By consolidating the

needs and resources from the involved parties, FIDES will provide the framework for implementing its Joint ExpErimental Programmes (JEEPs) in a co-ordinated way.

NEA publications of interest

Since the publication of *Nuclear Law Bulletin* No. 105, the NEA has issued a number of publications of interest. Much has been learnt in the ten years since the Great Eastern Japan Earthquake and the subsequent accident at the Fukushima Daiichi nuclear power plant, but significant challenges remain. The NEA report *Fukushima Daiichi Nuclear Power Plant Accident, Ten Years On: Progress, Lessons and Challenges* presents the current situation at the Fukushima Daiichi nuclear power plant and the responses by Japanese authorities and the international community since the accident. It will assist both policymakers and the general public to understand the multi-dimensional issues stemming from the accident. These include disaster recovery, compensation for damages, nuclear safety, nuclear regulation, radiation protection, plant decommissioning, radioactive waste management, psycho-social issues in the community and societal resilience. Building on two previous reports released by the NEA in 2013 and 2016,[8] the report examines the plant's future, that of the affected region and population, as well as outlining areas for further improvement and how the international community can help.

Policymakers, nuclear power companies and energy analysts around the world have been demonstrating a growing interest in the potential of SMRs as a competitive, low-carbon technology component of future integrated energy systems. SMRs harbour the promise of inherent safety features, of simplification and standardisation that could make nuclear capacity far easier and more economic to deploy, and of significant advancements in terms of the overall flexibility of nuclear energy in meeting future energy needs. Developers are making significant progress towards deployment of demonstration plants, but important questions remain to be answered regarding the commercial viability of SMRs. *Small Modular Reactors: Challenges and Opportunities* is the most recent NEA contribution within this context, providing a comprehensive overview of SMR technologies in order to assess the opportunities, and more importantly, the main challenges that these technologies have to overcome to achieve large-scale deployment and economic competitiveness. It provides an overview of technical, economic and market aspects of previous publications, and explores licensing, regulatory, legal and supply chain issues.

The decisions made about protective actions of people and the environment in situations involving exposure to ionising radiation have tended to be driven by subjective judgements about the health risks that radiation exposure may cause. In order to reach decisions that are effective and sustainable, it is essential for nuclear safety regulators, governments, nuclear facility operators and other nuclear energy decision makers to communicate scientific knowledge and uncertainties, and technical and regulatory information regarding radiological and other risks to all stakeholders. Communicating such information can be complex since people judge and evaluate risks differently depending on the context and on their perceptions of risk. In this context, the NEA organised the "Stakeholder Involvement Workshop on Risk Communication: Towards a Shared Understanding of Radiological Risks" in September 2019. The workshop provided an opportunity for participants to share perspectives and lessons learnt in risk communication, identifying what has been effective and what has been less effective under different prevailing circumstances. *Towards a Shared Understanding of Radiological Risks: Summary Report of the NEA Stakeholder Involvement Workshop on Risk Communication* attempts to capture the collective wisdom generated over the three days of interactions in the hope that the knowledge gained from this workshop will benefit governments and citizens alike.

8. NEA (2013), *The Fukushima Daiichi Nuclear Power Plant Accident: OECD/NEA Nuclear Safety Response and Lessons Learnt*, OECD Publishing, Paris; NEA (2016), *Five Years after the Fukushima Daiichi Accident: Nuclear Safety Improvements and Lessons Learnt*, OECD Publishing, Paris.

A wealth of technical information exists on nuclear fuel cycle options – combinations of nuclear fuel types, reactor types, used or spent nuclear fuel treatments, and disposal schemes – and most, if not all, countries with active nuclear power programmes conduct some level of research and development on advanced nuclear fuel cycles. However, perhaps because of the number of options that exist, it is often difficult for policymakers to understand the nature and magnitude of the differences between the various options. In this regard, *Strategies and Considerations for the Back End of the Fuel Cycle* explores the fuel cycle options and the differentiating characteristics of the options, and decision drivers related to both the development of the fuel cycle and the characteristics resulting from implementing the option. This publication has been prepared on the basis of information on the current situation of each country represented in the expert group including the current status and future plans for power reactors, reprocessing facilities, disposal facilities, and the status of research and development activities. This report is designed for policymakers to understand the differences among the fuel cycle options in a way that is concise, understandable and based on the existing technologies, while keeping technical discussions to a minimum.

The world's nuclear power reactors are ageing, with the majority approaching the end of their planned operational lifetimes in the coming years. The adequacy of funding for decommissioning and radioactive waste management thus increasingly commands the attention of decision makers. *Ensuring the Adequacy of Funding for Decommissioning and Radioactive Waste Management* combines a solid conceptual framework with the insights from 12 case studies of NEA member countries to propose a new approach to the adequacy of funding that is both robust and flexible. Current funding systems in NEA countries are overall adequate, but challenges lie ahead. All elements of the system – accrued funds, expected future returns, the lifetimes of nuclear power plants, the expected costs of politically sustainable technical solutions and the liabilities for residual risks – must be reviewed and realigned at regular intervals. Complementing existing approaches with such a circular approach will strengthen funding arrangements and ensure their adequacy for decades to come.

NEWS BRIEFS

2021 NEA Fundamentals of International Nuclear Law Essentials (FINL)

The first edition of the Fundamentals of International Nuclear Law (FINL) course was held on 16-18 February 2021 with a diverse and international group of 41 professionals and graduate students from 27 countries. The FINL is a new online course developed by the NEA to provide a high-level, introductory review of the central aspects of international nuclear law in a condensed programme over three days, three hours per day. This course was designed to accommodate the needs and interests of professionals working in the nuclear field and graduate students enrolled in an energy or international law-related Master of Laws (LLM) programme. The course was developed to provide a virtual educational offering, as a complement to the NEA's in-person education programmes, to ensure continuity in its mission of providing nuclear law information and education during these challenging times.

During the programme, the participants learned about the international nuclear law framework and major issues affecting the peaceful uses of nuclear energy. Renowned specialists in nuclear law from international organisations, governments and private industry delivered lectures on topics related to nuclear safety, security, non-proliferation and liability.

BOOK REVIEWS

Atomgesetz/Pariser Atomhaftungs-Übereinkommen (C.H. Beck, 2021), edited by Gerald Hennenhöfer, Thomas Mann, Norbert Pelzer and Dieter Sellner

This volume (in German language; the title translates as *German Nuclear Energy Act/Paris Convention on Third Party Nuclear Liability*) presents a thorough analysis of the German Nuclear Energy Act as well as of the Paris Convention (PC) (as modified by the 2004 Protocol). It is in the form of a commentary, i.e. each section of the Act and of the PC is explained separately; 16 authors (including the 4 editors) have contributed.

The volume is a major contribution to the understanding of German nuclear law. The *Atomgesetz* is the major (though not the only) piece of legislation in German nuclear law; the last years have also seen the creation of specific acts on radiation protection and on issues of waste management and disposal, which are not included in the book. By contrast, the PC, which has been implemented in German law as self-executing, is taken into account.

The explanations on the provisions of the *Atomgesetz* are written by experienced authors, many of them having actively and substantially contributed to the development of German nuclear law in the last decades. There is ample reference to court rulings, which in German nuclear law have a specific importance.

A specific mention must be given to the section on the PC and on those provisions of the German Nuclear Energy Act which relate to the PC, written by Norbert Pelzer, consultant and retired academic, Institute of Public International Law at the University of Göttingen. Norbert Pelzer is acknowledged and esteemed as one of the most eminent experts on nuclear liability; he has been contributing to the evolution of this area of law for more than 60 years through numerous publications, through his membership in all relevant international bodies and through his long advisory role to the German government. With the comprehensive and systematic analysis and explanation of the PC he has written for this volume, it can safely be said that he has summed up his lifetime scientific working with this convention. German-speaking readers will be delighted to have at their disposal, with this volume, an indispensable depiction and analysis of the PC. Non-German-speaking readers will turn, for reading and enlightenment, to the numerous articles Norbert Pelzer has written in English on specific issues of nuclear liability and of the PC, *inter alia* for the *Nuclear Law Bulletin*.

Energy Law, Climate Change and the Environment (2021), edited by Martha M. Roggenkamp, Kars J. de Graaf and Ruven C. Fleming

Energy Law, Climate Change and the Environment is the 9th volume of the 12-volume Elgar Encyclopedia of Environmental Law. Each of the different volumes is presented according to major themes, with other such volumes as: *Water Law* (Vol. 10), *Principles of Environmental Law* (Vol. 6), *Multilateral Environmental Treaties* (Vol. 5) and *Compliance and Enforcement of Environmental Law* (Vol. 4).

Energy Law, Climate Change and the Environment presents a comprehensive look at the main elements of energy law and how it is impacted by environmental issues. The 65 entries were written by almost 80 different authors and contributors and represent the work of leading international scholars and practitioners in the field of international energy and environmental law. Each entry follows the same format – abstract, keywords, table of contents, main text and bibliography – so that the articles may be understood in a comprehensive manner.

The entries are organised according to theme and encompass eight parts covering: 1) general concepts; 2) international developments; 3) regulating energy markets; 4) regulating the oil and gas sector; 5) regulating the electricity production sector; 6) regulating energy transport; 7) regulating access to energy and protecting energy consumers; and 8) regulating energy efficiency and energy savings. Nuclear energy is addressed in Part 5, along with renewable resources, hydropower, wind energy, solar energy, biomass and geothermal energy, as well as additional new developments.

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The following study is featured in this issue: "Recognition and enforcement of foreign judgments on civil liability for nuclear damage".

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