


Engagement with risk-exposed neighbours: the track record of nuclear newbuild and newcomer states

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ABSTRACT

Several international norms oblige governments of countries planning to build nuclear installations to proactively consult potentially affected countries in a timely manner. These norms arise from customary international law, the Convention on Nuclear Safety (CNS), the guidelines of the International Atomic Energy Agency (IAEA) and regional treaties and international environmental law. This study has examined 15 examples to assess (i) the extent to which such consultation has taken place and (ii) the effectiveness of measures taken by potentially affected countries in those cases where prior consultation had not taken place. Examples range in vintage from the 1960s to the present day and include both newbuild and newcomer countries. In only 3 of these 15 cases, prior consultation had taken place and all the involved nations had good bilateral relations and/or common interests in the project. Nevertheless, disputes arose later in two of these cases. In the other examples, the degree of success of the potentially affected state in changing the behaviour of the newbuild or newcomer state depended on a number of factors; for example, the state of bilateral relations, the availability of a regional organization to resolve the dispute, the validity of the arguments of both parties and the goodwill of the newbuild or newcomer state. Whilst the CNS and the actions of the IAEA have raised nuclear safety standards substantially over recent decades, the unwillingness of most nations to adhere to the obligation to consult would seem to be a significant weakness.

1. INTRODUCTION

Although the much vaunted ‘nuclear renaissance’ of the early 2000s has not yet materialized, a number of countries have been building new nuclear power plants or have plans to at some stage. These include ‘new build’ countries that are adding to an existing fleet and ‘newcomers’ who are embarking on a civil nuclear power programme for the first time. The Convention on Nuclear Safety (CNS) that entered into force in 1996 includes the obligation on contracting parties to consult risk-exposed contracting parties during the process of selecting a site for the nuclear installation. Since then, the International Atomic Energy Agency (IAEA) has produced a steady stream of principles, procedures and guidelines relating to the safety of civil

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nuclear power plants and other nuclear installations. A number of these focus on the processes that should be followed by countries planning to embark on a nuclear power programme for the first time as well as those adding to an existing fleet. Most notable are those that describe the Milestones Approach.

One of the issues that have been gaining increasing prominence in these documents is the need for the newbuild or newcomer country to consult with all potentially affected parties, including neighbouring states. According to the IAEA, such consultation should take place at all stages of the development of a nuclear power programme, from initial planning, through siting and commissioning to decommissioning. The requirement is particularly relevant for installations that are close to the international border. The obligation to consult is also recognized in customary international law and is enshrined in certain international environmental treaties. Regional treaties may reinforce these obligations. For example, members of the European Union (EU) are governed by the Euratom Treaty and the Nuclear Safety Directive of 2009, amended in 2014.

The aims of this article are 2-fold. The first objective is to assess the extent to which states do consult their potentially risk-affected neighbours when planning the construction of a new nuclear installation or embarking on a nuclear power programme for the first time. Secondly, we examine the strategies pursued by the potentially risk-exposed neighbour if tension and conflict arise, with the aim of identifying the factors that determine the outcomes of these strategies.

Most of the countries studied are European, on account of the significant number of plants close to international borders. Three of the 15 examples involve Asian countries. The cases were chosen to reflect a range of geography and political context (Table 1). Austria is the subject of several case studies on account of its longstanding practice of trying to discourage the construction or life extension of nuclear installations across

Table 1. The pairs of countries and the respective time periods covered by this study.

<i>Newbuild/newcomer state</i>	<i>Potentially risk-exposed state</i>	<i>Time periods</i>
Prior engagement took place		
Sweden	Denmark	1960–2005
Hungary	Austria	2000–present
Bangladesh	India	2016–present
No prior engagement took place		
Plans halted after later engagement		
Switzerland	Austria	1972–86
Germany	Austria	1982–88
Switzerland	France	1976–97
Spain	Portugal	1987
Improvements after later engagement		
Spain	Portugal	2016–present
Czechia	Austria	1993–2004
Belarus	Lithuania	2008–present
China	Vietnam	2010–present
No improvements after later engagement		
Slovakia	Austria	1990–99
Poland	Austria	2018–present
UK	Austria	2014–present
Turkey	Cyprus	2015–present

Europe. The cases also span a significant period of time, from the 1960s to the present day. This permits an assessment of the efficacy of the increasing rigour of international law in this field.

Our analysis has revealed that the case studies fall into four categories:

1. Three cases where prior engagement and consultation took place.
2. Cases where it appears that no prior engagement and consultation took place.
 - a. Four cases where later engagement led to the plans being halted.
 - b. Four cases where later engagement failed to halt the project but led to some improvement in practices.
 - c. Four cases where later engagement failed to lead to any changes.

These findings show that potentially risk-exposed nations cannot rely on the international regime for nuclear safety to protect their interests. Instead, they should be proactive in monitoring and engaging with nearby newbuild or newcomer states. Where they exist or can be created, regional organizations with robust rules on consultation and systems for dispute resolution can reinforce the international regime.

The following section presents an overview of the legal obligations and guidance to consult potentially affected states. The subsequent Sections 3 and 4 analyse in turn each of these four categories of cases.

2. LEGAL OBLIGATIONS AND RECOMMENDATIONS

A number of international legal principles and instruments place an obligation on states or encourage them to consult with neighbouring countries when embarking on a nuclear power programme or building a new nuclear power plant. This obligation is especially relevant when the planned installation is close to an international border. While there is a variety of approaches to assessing proximity, this article follows IAEA guidelines for emergency planning: plants within 30 km of a border are treated as being 'border' plants and those 30–100 km away as being in 'close proximity'.¹

Four fields of international law are relevant:

- guiding principles of international law;
- international environmental law instruments;
- IAEA conventions, standards and guidance; and
- EU law.

Guiding principles of international law

States have a direct obligation to assume responsibility for transboundary harm as a corollary of territorial sovereignty. The essence of this obligation, often referred to as the 'no-harm' principle or 'prevention principle', is that states have a duty to prevent, reduce and control pollution and transboundary environmental harm 'causing significant damage' arising from activities within their territory, jurisdiction or control, including the operation of a nuclear power plant.²

The nature of this customary international law obligation to prevent significant transboundary harm is one of due diligence that is required of a state in its territory. It is an obligation of conduct rather than one of result and does not guarantee that harm will not occur. The state constructing an industrial or other installation is obliged to conduct an environmental impact assessment (EIA) if there is a risk of significant transboundary harm. This EIA

1 International Atomic Energy Agency (IAEA), *Actions to Protect the Public in an Emergency Due to Severe Conditions at a Light Water Reactor*, EPR-NPP Public Protective Actions (IAEA 2013).

2 International Law Association (ILA) Study Group on Due Diligence in International Law, 'First Report' (7 March 2014).

should be carried out before construction starts. The party carrying out the EIA should also notify the potentially affected state and consult in good faith on preventive and mitigating measures.³

International environmental law instruments

Two of the most internationally recognized instruments relating to environmental assessments are the Convention on Environmental Impact Assessment in a Transboundary Context (known as the Espoo Convention)⁴ and the Protocol on Strategic Environmental Assessment (known as the Kyiv Protocol),⁵ which were adopted under the auspices of the United Nations Economic Commission for Europe (UNECE). Both the Espoo Convention and the Kyiv Protocol include nuclear power plants within their scope. They address transboundary impacts of projects (Espoo) and plans and programmes (Kyiv). Both instruments provide mechanisms to review compliance and settle disputes. The Espoo Convention also establishes an inquiry procedure. Where the two parties cannot agree on whether there is a risk of significant transboundary harm, one party can request that an inquiry commission be established to advise on this point.

At present, there are 45 parties⁶ to the Espoo Convention and 33 parties⁷ to the Kyiv Protocol. Both documents have a limited geographical scope of application: the Espoo Convention applies to the UNECE member countries, including those from Europe, North America and the Central Asian republics of the former Soviet Union; the Kyiv Protocol covers European States and several neighbouring countries. The first amendment to the Espoo Convention opened the Convention to accession by non-members of the UNECE. It came into force on 26 August 2014 but has yet to become operational, pending 13 ratifications.⁸

The Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) of 1998, also under the auspices of the UNECE, addresses the issue of access to information and public participation in environmental matters.⁹ It reinforces the Espoo Convention by requiring the participation of the public in a neighbouring country in cases where transboundary environmental impacts are required. Nuclear installations are covered explicitly as an activity listed in Annex 1 to the Convention. The Aarhus Convention came into force in 2001 and has 47 parties.¹⁰ The Convention is also not limited to the UNECE region. Any UN Member State from any other region of the world may accede to the Convention subject to approval of the Meeting of the Parties to the Convention.

3 ILA Study Group on Due Diligence in International Law, 'Second Report' (July 2016).

4 'Convention on Environmental Impact Assessment in a Transboundary Context' (Espoo Convention) (adopted 25 February 1991, entered into force 10 September 1997), 1989 UNTS 310.

5 'Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context' (Kyiv Protocol) (adopted 21 May 2003, entered into force 11 July 2010), 2685 UNTS 140.

6 The latest status of the Espoo Convention can be found at United Nations Treaty Collection, 'Convention on Environmental Impact Assessment in a Transboundary Context' <https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-4&chapter=27&lang=en> accessed 25 May 2019.

7 The latest status of the Kyiv Protocol can be found at United Nations Treaty Collection, 'Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context' <https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-4-b&chapter=27&lang=en> accessed 25 May 2019.

8 The latest status of the first amendment to the Espoo Convention can be found at <<https://unece.org/environment-policy/environmental-assessment/1st-amendment>> accessed 13 March 2021.

9 'UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters' (Aarhus Convention) <<https://www.unece.org/env/pp/treatytext.html>> accessed 18 January 2021.

10 The latest status of the Aarhus Convention can be found at United Nations Treaty Collection, 'Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters' <https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-13&chapter=27&clang=en> accessed 18 January 2021.

International conventions on nuclear safety and IAEA guidance

The CNS, the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Joint Convention), and the Convention on Early Notification of a Nuclear Accident (Early Notification Convention) provide the foundation for the IAEA to develop guidance on nuclear safety, including transboundary consultation.

Article 17 of the 1994 CNS establishes an obligation on a contracting party to consult risk-exposed contracting parties during the process of selecting a site for the nuclear installation.¹¹ It grants the corresponding right of a potentially risk-exposed contracting party to obtain information, upon request, that would allow it to evaluate and assess the likely safety impact of the nuclear power plant on their own territory.

Article 27 of the 1997 Joint Convention requires contracting parties involved in transboundary movement of spent fuel and radioactive waste generated by nuclear reactors to ensure that any transboundary movement is authorized and takes place only with prior notification and consent of the State of destination.¹²

The 1986 Early Notification Convention aims to strengthen the international response to nuclear accidents in order to minimize transboundary radiological consequences.¹³ In the event of an accident, the State Party must immediately notify states that are or may be physically affected (as well as the IAEA itself), of the accident and relevant information to allow the affected state to minimize the consequences.

The IAEA is the principal international organization that deals with nuclear issues. It is recognized as playing a central role in promoting nuclear safety and security. In a number of documents, the IAEA has laid out the responsibilities of a contracting party to consult neighbouring contracting parties over its plans for nuclear power. The 'Fundamental Safety Principles' published in 2006 does not specifically mention neighbouring states. However, paragraph 3.27 states that 'radiation risks may transcend national borders' and that 'safety standards apply not only to local populations but also to populations remote from facilities and activities'.¹⁴ The following year, the IAEA issued the first edition of its Milestones Framework, which identifies the need for a government embarking on a nuclear power programme to consult with neighbouring countries.¹⁵ The need to consult neighbouring states has been reinforced by a number of later documents.

In line with the IAEA Safety Guides SSG-12¹⁶ issued in 2010 and SSG-16 issued in 2011 and revised in 2020,¹⁷ a country planning to site a nuclear power plant close to their national border is expected to establish a consultation mechanism and engage with any potentially affected neighbour. A consultation mechanism to be established during Phase 1 of the Milestones Approach¹⁸ would allow a neighbour to express its views and concerns about a potential nuclear power plant site as well as the proposed nuclear power programme in general.¹⁹

In 2018, the IAEA issued its Guidelines on Strategic Environmental Assessments.²⁰ This recommends that a state undertake a strategic environmental assessment in the following situations:

- 'If a new nuclear power programme is initiated;
- If an existing nuclear power programme is extended by the construction of new reactors;

11 'Convention on Nuclear Safety' (CNS) (adopted 17 June 1994, opened for signature 20 September 1994, and entered into force 24 October 1996), INFCIRC/449 (5 July 1994).

12 'Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management' <<https://www.iaea.org/topics/nuclear-safety-conventions/joint-convention-safety-spent-fuel-management-and-safety-radioactive-waste>> accessed 18 January 2021.

13 'Convention on Early Notification of a Nuclear Accident' <<https://www.iaea.org/topics/nuclear-safety-conventions/convention-early-notification-nuclear-accident>> accessed 18 January 2021.

14 IAEA, *Fundamental Safety Principles*, SF-1 (IAEA 2006).

15 IAEA, *Milestones in the Development of a National Infrastructure for Nuclear Power*, NG-G-3.1 (IAEA 2007).

16 IAEA, *Licensing Process for Nuclear Installations*, SSG-12 (IAEA 2010).

17 IAEA, *Establishing the Safety Infrastructure for a Nuclear Power Programme*, SSG-16 (Rev.1) (IAEA 2020).

18 IAEA, *Milestones in the Development of a National Infrastructure for Nuclear Power*, NG-G-3.1 (Rev.1) (IAEA 2015).

19 See IAEA (n 17).

20 IAEA, *Strategic Environmental Assessment for Nuclear Power Programmes*, NG-T-3.17 (IAEA 2018).

- If a waste management or decommissioning strategy is newly developed or significantly revised; and
- If considering the extension of the lifetime of a reactor requires a strategic environmental assessment or would profit from it.’

Such a strategic environmental assessment should engage all stakeholders, including neighbouring countries.

Siting is a key infrastructural issue in the IAEA’s Milestones Approach. A country is expected to carry out the nuclear power plant site survey in Phase 1 and engage in consultations with stakeholders, including any neighbour, early in the process and before any substantive decisions are made.²¹ The EIA process should start in Phase 1 with the initial gathering and analysis of environmental information from the site and the EIA should be complete in Phase 2. This would involve consultation with neighbouring countries if relevant.²² The IAEA also calls for a country to establish a plan for ongoing interaction with a neighbour during Phase 1 and to actively engage from Phase 2.²³

The final critical issue is emergency preparedness and response. While initial planning by the newbuild or newcomer country should have started during Phases 1 and 2 of the Milestones Approach, these arrangements should be completed and tested in Phase 3 before the first nuclear fuel arrives on site. Furthermore, such plans should be fully coordinated with any potentially affected neighbouring country.²⁴

EU law

The European Economic Community (EEC) was created in 1957. The same year saw the signing of the 1957 Euratom Treaty which established the European Atomic Energy Community, or Euratom. The purpose of Euratom at the time was to promote the adoption of nuclear power energy as a response to the shortage of conventional energy.²⁵ The focus of the treaty was on research, dissemination of information, encouragement of investment, non-discriminatory access to supplies of fissile materials and safeguards. Article III on safety was couched in very general terms around the need to protect workers, the public and the environment, even in the updated and consolidated version of 2012.²⁶

This lacuna was partly filled by the 2009 European Council Directive ‘Establishing a Community Framework for the Nuclear Safety of Nuclear Installations’.²⁷ This Directive explicitly refers to the international regime for nuclear safety, as endorsed by the CNS, and to the IAEA’s safety principles. However, the text is short, just 21 pages, and Article 8 (‘Information to the Public’) on making information available to workers and the public ‘in accordance with national legislation and international obligations’ makes no mention of neighbouring states. Following the 2011 Fukushima Daiichi nuclear accident, the Council issued a number of amendments to this Directive in 2014.²⁸ Article 8 was renamed ‘Transparency’ and its expanded text refers explicitly to ‘the competent regulatory authorities of other Member States in the vicinity of a nuclear installation’ in two contexts: the need to inform the authority after an accident or incident and to engage ‘as appropriate, in cooperation activities . . . inter alia, via the exchange and/or sharing of information’.

21 See IAEA (n 18).

22 IAEA, *Managing Environmental Impact Assessment for Construction and Operation of New Nuclear Power Programmes*, NG-T-3.11 (IAEA 2014).

23 IAEA, *Evaluation of the Status of National Infrastructure Development*, NG-T-3.2 (Rev.1) (IAEA 2016).

24 See IAEA (n 18).

25 ‘Treaty Establishing the European Atomic Energy Community (Euratom)’ (25 March 1957) <<https://eur-lex.europa.eu/eli/treaty/euratom/sign>> accessed 12 May 2021.

26 ‘Consolidated Version of the Treaty Establishing the European Atomic Energy Community’ (26 October 2012) (2012/C) C327.1 Official Journal of the European Union 1 <https://eur-lex.europa.eu/eli/treaty/euratom_2012/oj> accessed 12 May 2021.

27 ‘Council Directive 2009/71/Euratom of 25 June 2009 Establishing a Community Framework for the Nuclear Safety of Nuclear Installations’ (2 July 2009) L 172/18 Official Journal of the European Union 1 <<https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:172:0018:0022:EN:PDF>> accessed 12 May 2021.

28 ‘Council Directive 2014/87/Euratom of 8 July 2014 amending Directive 2009/71/Euratom Establishing a Community Framework for the Nuclear Safety of Nuclear Installations’ (25 July 2014) L219/42 Official Journal of the European Union 42 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJL_2014.219.01.0042.01.ENG> accessed 12 May 2021.

Table 2. Dates at which the countries studied became party to the identified treaties.

Country	CNS	EEC/EU	Aarhus	Espoo	Kyiv
European countries					
Austria	1997	1973	2000	1997	2012
Belarus	1999	N/A	2000	2005	2005
Czechia	1996	2004	2004	2001	2005
Cyprus	1999	2004	2003	2000	2017
Denmark	1997	1973	2000	1997	2012
France	1996	1957	2002	2001	–
Germany	1997	1957	2007	2002	2007
Hungary	1996	2004	2001	1997	2010
Lithuania	1996	2004	2002	2001	2011
Poland	1997	2004	2002	1997	2011
Portugal	1998	1986	2003	2000	2012
Slovakia	1996	2004	2005	1999	2008
Spain	1996	1986	2004	1992	2009
Switzerland	1996	-	2005	1996	–
Sweden	1995	1995	2005	1992	2006
UK	1996	1973	2005	1997	2003
Asian countries					
Bangladesh	1996	–	–	–	–
China	1996	–	–	–	–
India	2005	–	–	–	–
Turkey	1995	–	–	–	–
Vietnam	2010	–	–	–	–

In addition to these formal instruments, a number of bodies have been established to enhance collaboration both by the European Commission and by national agencies themselves. These include the European Nuclear Safety Regulators Group, the Western European Nuclear Regulators Association and the European Technical Safety Organisations Network.

At a higher level, the four main institutions of the EU are the European Council, the European Commission, the Council of Europe and the European Parliament. All Member States have access to these institutions to resolve disputes. More formal litigation can be pursued through the European Court of Justice.

Table 2 identifies which of the countries examined in this study are parties to which of these international legal instruments and the dates at which they acceded.

3. CASES WHERE PRIOR ENGAGEMENT TOOK PLACE

Our study identified three examples where the country planning to build a nuclear power plant engaged with one or more neighbouring states or states within the vicinity prior to making a final decision:

- Sweden's engagement with Denmark over the former's Barsebäck plant;
- Hungary's engagement with neighbouring countries and with Austria over its Paks plant;
- Bangladesh's engagement with India over the former's Rooppur plant.

Nevertheless, disputes still arose in two of these examples, despite the prior consultation.

Denmark and Sweden's Barsebäck plant

The Sweden–Denmark case is of interest because tension arose over the installation after its commissioning, despite early consultation and collaboration. The Barsebäck nuclear power plant in Sweden is a border plant located just 20 km from Denmark's capital city, Copenhagen. When the plant was being planned in the 1960s, Barsebäck was regarded as an ideal location as it was near customers from both Sweden and Denmark. The decision to include nuclear power in Sweden's energy mix and the siting of the nuclear power plant initially met with no objections from Denmark, thanks to a history of good electricity relations between the two countries.²⁹

At that time, Denmark had no firm plans for nuclear power plants but intended to eventually build its own and was thus supportive of Sweden's plans. It was agreed that Denmark would buy 25 per cent of the electricity generated by Barsebäck.³⁰ This prior consultation took place before either party had joined the European Economic Community or EU, and decades before the CNS, the Environmental Treaties and the IAEA guidance described above (Sections 'International environmental law instruments' and 'International conventions on nuclear safety and IAEA guidance'). This was due to the good political relations between the two countries, both being members of the Nordic Council, and to the mutual economic benefit provided by the plant.

Despite the highly consultative process, public and political disputes erupted after the two Barsebäck reactors became operational in 1975 and 1977. In the summer of 1976, the Danish Social-Democrat-led parliament delayed the decision to licence Danish nuclear power plants, in part due to adverse public opinion towards nuclear power.³¹ Almost a decade later, in 1985, the Danish parliament decided to exclude nuclear power from its future energy planning.³²

A series of events steadily intensified the cross-border conflict over the Barsebäck plant from the late 1970s to early 1990s: the Three Mile Island accident in 1979, the Chernobyl accident in 1986 and two incidents at the Barsebäck plant itself in 1992 and 1993.³³ Two joint commissions in the early 1990s reported that the Barsebäck reactors were safe, yet the Danish government persisted in its demands that the plant be closed.³⁴

Meanwhile, Swedish domestic politics began affecting the Barsebäck issue. The Swedish parliamentary elections in 1994 gave birth to a minority government formed by the Swedish Social Democratic Party, dependent on support from the Left Party and the Centre Party. In 1997, they forged a tripartite agreement that included a decision to gradually phase out nuclear power, starting with the two nuclear reactors at Barsebäck.³⁵ The two reactors were closed in 1999 and 2005, respectively.

Austria and Hungary's Paks plant

The case of Hungary and Austria is another in which the newbuild country, Hungary, did consult in an open and timely manner, but a dispute arose nevertheless. Completed in the 1980s, Hungary's Paks nuclear power plant is located some 200 km from Austria's border, and just over 300 km from Vienna.³⁶ In 2000, Hungary

29 Arne Kaijser, 'Redirecting Power: Swedish Nuclear Power Policies in Historical Perspective' (1992) 17 *Annual Review of Energy and the Environment* 437 <<https://www.annualreviews.org/doi/abs/10.1146/annurev.eg.17.110192.002253>> accessed 2 February 2020.

30 Arne Kaijser and Jan-Henrik Meyer, "'The World's Worst Located Nuclear Power Plant': Danish and Swedish Cross-Border Perspectives on the Barsebäck Nuclear Power Plant", (2018) 3 *Journal for the History of Environment and Society* 71.

31 Jan-Henrik Meyer, Denmark—Short Country Report (2019), *History of Nuclear Energy and Society*, History of Nuclear Energy and Society Project <http://www.honest2020.eu/sites/default/files/deliverables_24/DK.pdf> accessed 8 July 2020.

32 *ibid.*

33 Ragnar E. Löfstedt, 'Risk Communication: The Barsebäck Nuclear Plant Case' (1996) 24(8) *Energy Policy* 689.

34 Kaijser and Meyer (n 30).

35 Tore Wiwen-Nilsson, 'Phasing-Out of Nuclear Power in Sweden' (2006) 24(3) *Journal of Energy & Natural Resources Law* 355.

36 World Nuclear Association, 'Nuclear Power in Hungary' (2019) <<https://www.world-nuclear.org/information-library/country-profiles/countries-g-n/hungary.aspx>> accessed 29 May 2020.

began taking steps to extend the lives of all four reactors to continue operations into the 2030s and made plans for two new reactors on the same site, currently scheduled for completion in 2026.³⁷ Hungary joined the EU in 2004, and while it did have to prove that Paks could meet stricter safety standards, neither Paks nor its extension plans impeded accession.³⁸ The country had earlier acceded to the Espoo Convention in 1997.

Hungary conducted a transboundary EIA in 2005 for the renewal of its four current reactors, in which both Austria and Croatia were invited to participate.³⁹ All four extension upgrades were successfully completed in 2017.⁴⁰ Hungary also began its scoping and consultations process for the new reactors with some 30 countries in 2013, after having ratified the Kyiv Protocol in 2010. The EIA was completed in 2016. Not only did Hungary notify Austria of their intentions at the beginning of the process but Hungary also provided relevant details of the scoping procedure, gave time for the Austrian public to participate, translated its documents into German for Austrian readers, extended the original time limit for comments, and allowed all information and communication to be available digitally for ease of access.⁴¹ Austria participated extensively in the EIA process.⁴²

However, Hungary also took some controversial steps. In 2015, the Hungarian Parliament voted to classify much of the data from Paks for 30 years.⁴³ This raised transparency and safety concerns across Europe. Also, in 2015 Euratom and the EU blocked Hungary's plan to have a Russian-owned company build the two new reactors with Russian financing, citing the unorthodox funding scheme and Hungary's failure to award the project based on international tender.⁴⁴

The Paks project was approved by the European Commission 2 years later, after Hungary had renegotiated the terms of financing. However, Austria was still dissatisfied and sued the Commission in 2018 for approving Hungary's plans.⁴⁵ While the Paks project had some remaining safety issues,⁴⁶ the focus of the suit was on the use of public funds, very similar to Austria's lawsuit against the European Commission for Hinkley Point C (see below, Section 'Austria and the UK's Hinkley Point C plant'). In both cases, Austria argued that the projects were not in the public interest and could threaten fair competition.⁴⁷ The lawsuit is

37 *ibid.*

38 József Bajsz and Tamas Katona, 'Achievements and Challenges of Paks NPP' (1 January 2002), International Conference, Nuclear Energy for New Europe, Kranjska Gora, Slovenia, 9-12 September 2002, <https://www.researchgate.net/publication/228401826_Achievements_and_challenges_of_Paks_NPP> accessed 1 January 2021.

39 Umweltbundesamt GmbH, 'UVP KKW Paks', Nuklearrelevante Verfahren (2020) <<https://www.umweltbundesamt.at/uvpkkwpaks>> accessed 12 February 2021.

40 'Hungary's Paks Nuclear Plant Receives 20-Year Lifetime Extension' (*Reuters*, 22 December 2017) <<https://af.reuters.com/article/commoditiesNews/idAFL8N1OM14A>> accessed 18 March 2020.

41 UNECE, *Good Practice Recommendations on the Application of the Convention to Nuclear Energy-Related Activities: Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention)* (UNECE 2017) 14–15 <https://www.unece.org/fileadmin/DAM/env/eia/Publications/2017/1734724_ENG_web.pdf> accessed 5 March 2020.

42 Umweltbundesamt GmbH, 'UVP Kernkraftwerk Paks II', Nuklearrelevante Verfahren (2020) <<https://www.umweltbundesamt.at/uvpkkwpaksii>> accessed 12 February 2021.

43 Tamás Székely, 'Opposition Attacks Ruling Parties as Parliament Classifies Paks Upgrade Data for 30 Years' *Hungary Today* (3 March 2015) <<https://hungarytoday.hu/opposition-attacks-ruling-parties-parliament-classifies-paks-upgrade-data-30-years-38896/>> accessed 18 March 2020.

44 Rishika Sadam and Leslie Adler, 'EU Blocks Hungary's 12 Billion Euro Nuclear Deal with Russia: FT' (*Reuters*, 13 March 2015) <<https://www.reuters.com/article/us-eu-hungary-russia-nucleardeal/eu-blocks-hungarys-12-billion-euro-nuclear-deal-with-russia-ft-idUSKBNOM82P420150312>> accessed 18 March 2020.

45 Shadia Nasralla, 'Austria to Sue EU over Allowing Expansion of Hungary Nuclear Plant' (*Reuters*, 22 January 2018) <<https://www.reuters.com/article/us-austria-hungary-eu-nuclearpower/austria-to-sue-eu-over-allowing-expansion-of-hungary-nuclear-plant-idUSKBN1FB1FJ>> accessed 5 March 2020.

46 IAEA, 'IAEA Mission Says Hungary's Paks Nuclear Power Plant Has Strengthened Safety, Recommends Continued Improvement' (21 October 2016) <<https://www.iaea.org/newscenter/pressreleases/iaea-mission-says-hungarys-paks-nuclear-power-plant-has-strengthened-safety-recommends-continued-improvement>> accessed 18 March 2020.

47 Alissa de Carbonnel, 'Luxemburg to Join Austria in Suing EU over Hungary Nuclear Plant' (*Reuters*, 6 March 2018) <<https://www.reuters.com/article/us-austria-hungary-eu-nuclearpower/luxemburg-to-join-austria-in-suing-eu-over-hungary-nuclear-plant-idUSKBN1GH2WW>> accessed 21 March 2020.

still pending a decision as of June 2021. Although the Paks project fell behind schedule, in part due to the EU's initial block, construction of the first new reactor is expected to begin in late 2021.⁴⁸

India and Bangladesh's Rooppur plant

This case is distinct from the previous two as neither Bangladesh nor India is party to the three international environmental treaties, but they are both party to the CNS. The context of the prior engagement is India's active involvement in Bangladesh's commercial nuclear power plant.

The Rooppur nuclear power plant in Bangladesh was first conceived in the 1960s and construction began in 2017. The site will contain two reactors to be completed in 2023 and 2024, built by Russia's ROSATOM with support from India's Department of Atomic Energy under a 2018 trilateral agreement.⁴⁹ The site is just 30 km from India's border and is therefore a border plant and just over 200 km from the Indian city Kolkata.

India has a long history of civil nuclear power. As of 2021, it has 23 operating reactors across 7 sites and another 7 reactors currently under construction.⁵⁰ India's most recent reactor being built is unit 5 at Kudankulam, which is of the ROSATOM VVER-1000 design, similar to the Rooppur nuclear power plant. Bangladesh and India signed three bilateral agreements in 2017 regarding peaceful nuclear energy cooperation.⁵¹ Also in 2017, Bangladesh hired India's Global Centre for Nuclear Energy Partnership to consult on the project construction and, in 2018, Bangladesh sent 50 specialists to be trained in India.⁵² There are also future plans for India to supply, supervise, verify and provide technical expertise on the construction and human development needs in Bangladesh.⁵³

While there has been little pushback against the Rooppur plant from its nearest neighbour, India, there is opposition to Rooppur from within Bangladesh. Some question if Bangladesh is ready for a nuclear power plant.⁵⁴ Another study found Bangladesh's limited transparency on the project troubling. It is unclear whether ROSATOM or the Indian suppliers will face any liability charges should there be a harmful ecological or safety impact. The EIA and spent fuel agreements remain classified. It is not known whether the EIA covered the relevant areas across the border with India or whether consultations with India included communities and local governments in the border areas.

4. CASES WHERE NO PRIOR ENGAGEMENT TOOK PLACE

Cases where later engagement led to the plans being halted

Our study examined four cases where engagement had not occurred before the announcement of a project, yet the subsequent action by the neighbouring state led to the cancellation of the project. Behind the resolution of all four cases lay historically good relations between the respective states, all of which were Western European, though the European Council was involved in one of them.

48 World Nuclear Association (n 36).

49 IAEA, 'Country Nuclear Power Profiles: Bangladesh' (2016) <<https://cnpp.iaea.org/countryprofiles/Bangladesh/Bangladesh.htm>> accessed 23 September 2020.

50 World Nuclear Association, 'Nuclear Power in India', last modified April 2018 <<http://www.world-nuclear.org/information-library/country-profiles/countries-g-n/india.aspx>> accessed 30 April 2018.

51 Ministry of External Affairs, India, 'List of Agreements/MOUs Exchanged during the State Visit of Prime Minister of Bangladesh to India (April 07–10, 2017)' (2017) <<https://www.mea.gov.in/bilateral-documents.htm?dtl/28360/List+of+Agreements+MoUs+exchanged+during+the+State+Visit+of+Prime+Minister+of+Bangladesh+to+India+April+07+2017>> accessed 23 September 2020.

52 Saurav Jha, 'Building Rooppur: Saurav Jha Looks at the Unique Role India Will Have in Providing Industrial Support for Bangladesh's Rooppur Nuclear Plant' (2018) *October Nuclear Engineering International* 15 <<https://link.gale.com/apps/doc/A560685445/AONE?u=nuilib&sid=AONE&xid=271f137d>> accessed 30 September 2020.

53 ASM Ali Ashraf and Md Shafiqul Islam, 'Explaining Public Policy Choices: A Case Study of the First Nuclear Power Plant in Bangladesh' (2018) 42(5) *Strategic Analysis* 519

54 Ishrak Ahmed Siddiky, 'The Nuclear Conundrum for Developing Countries: Are They Ready Yet?' (2015) 33(2) *Journal of Energy & Natural Resources Law* 171.

Two of the cases involved Austria which only joined the EU in 1995. The significance of Austria is that its parliament banned the use of civil nuclear power in 1978, following a referendum. The first of these cases concerned Switzerland's planned Rütli project. Switzerland had been building nuclear power plants since the 1960s with more support than pushback from citizens as well as environmental groups.⁵⁵ However, the Swiss government began encountering major protests from Austrian citizens in the 1970s as a direct response to a planned nuclear power plant at Rütli, less than 5 km from the Austrian border. These plans led to massive protests in Austria from 1972 to 1975, with some 20,000 participants participating in Anti-Rütli Marches along the Swiss–Austrian border.⁵⁶ Switzerland ultimately abandoned plans for the Rütli plant in 1986, and the Austrian protesters have been given credit for this outcome.⁵⁷ However, according to the Organisation for Economic Cooperation and Development, high-level 'information and consultation' processes between experts and officials from both governments were ongoing in 1979 and probably played a role.⁵⁸

The second Austrian case involved Germany which ordered its first nuclear power plant in 1958, two decades before Austria's national referendum. It would go on to build 23 nuclear reactors in total before public opinion turned in both Germany and Austria.⁵⁹ Not long after Austria's anti-nuclear referendum in 1978, Germany announced plans to build a nuclear reprocessing plant in Wackersdorf, Germany, 130 km from the Austrian border.⁶⁰ Germany had begun planning to build a reprocessing plant as early as in the 1960s, but the Wackersdorf project did not begin until 1982.⁶¹ The Chernobyl accident in 1986 triggered protests on both German and Austrian sides. Plans for the plant were officially cancelled in 1988 after Germany agreed to work with an existing French reprocessing plant instead.⁶²

The third case involved France's 1200 GW fast-breeder reactor, Superphénix. The town of Creys-Malville in southwest France chosen for the reactor lay 120 km from the Italian border and 300 km from Germany. Not only was Superphénix intended to supply these countries with electricity, but the state-owned utilities, RWE of Germany and ENEL of Italy, were partners in the project with France's EDF.⁶³ Switzerland was not party to the project. Further, there is no evidence that the Superphénix partners consulted the Swiss, although the project lay just 20 km from the border.⁶⁴ The French government made the final decision to go ahead with Superphénix in 1976. By this time, opposition to the plant had already been growing, not just in France, Germany and Italy, but also in neighbouring Switzerland. The first demonstration on the proposed site took place in July 1976, with participants from all four countries. One year later, a much larger demonstration took place in Malville. This turned violent and resulted in the death of one demonstrator and injuries to others.⁶⁵

55 Hanspeter Kriesi, 'Switzerland', in *The Politics of Nuclear Energy in Western Europe* (OUP 2017) 259.

56 Christian Forstner, 'Austria—Short Country Report' History of Nuclear Energy and Society project report (2018) 40.

57 Emmanuelle Maitre and Pauline Lévy, 'Becoming a Disarmament Champion: The Austrian Crusade against Nuclear Weapons' (2019) 26(5–6) *Nonproliferation Review* 547 <<https://doi.org/10.1080/10736700.2019.1690312>> accessed 2 September 2019.

58 Organisation for Economic Co-operation and Development (OECD), 'Safety and Siting of Nuclear Installations near International Borders in NEA Member Countries', CSNI Report No 35, Committee on the Safety of Nuclear Installations (1979) 8 <<https://www.oecd-nea.org/nsd/docs/1979/csni79-35.pdf>> accessed 15 September 2020.

59 IAEA, 'Country Nuclear Power Profiles: Germany' (2019) <<https://cnpp.iaea.org/countryprofiles/Germany/Germany.htm>> accessed 31 May 2020.

60 Kurt Heller, *Border Installations: The Experience of Wackersdorf* (Graham and Trotman 1988) <http://inis.iaea.org/search/search.aspx?orig_q=RN:20019687> accessed 5 September 2021.

61 Peter Weish, 'Austria's No to Nuclear Power', Paper presented in Tokyo, Kyoto and Wakayama, Japan, April 1988, 5 <http://homepage.univie.ac.at/peter.weish/schriften/austrias_no_to_nuclear_power.pdf> accessed 5 September 2021.

62 Steven Dickman, 'Wackersdorf To Be Buried' (1989) 338 *Nature* 611 <<https://www.nature.com/articles/338611c0.pdf?proof=true>> accessed 5 September 2021.

63 Claire Le Renard, 'The 2018 Superphénix Fast Breeder Nuclear Reactor. Cross-Border Cooperation and Controversies' (2018) 3 *Journal for the History of Environment and Society* 107.

64 *ibid.*

65 Andrew Tomkins, 'Transnationality as a Liability? The Anti-Nuclear Movement at Malville' (2011) 89(3–4) *Revue belge de philologie et d'histoire* 1365.

Scientists from Switzerland wrote variously to the French President, other heads of European governments and parliaments arguing for the Superphénix project to be halted on safety grounds. Swiss activists attacked electricity infrastructure around Creys-Malville. In 1979, the French and Swiss governments concluded an agreement requiring the sharing of information on events that might have radiological consequences. In 1987, this was elevated to become a formal treaty.⁶⁶ The Superphénix came into operation in early 1986, but just 4 months later the Chernobyl accident reactivated the controversy around the plant. A series of leaks over the following years led to shutdowns and increased pressure to halt the project, not just from Switzerland but from other European countries. Finally, in 1997, a new Socialist-Green French government announced that the plant would be closed.⁶⁷ This decision marked the end of Europe's efforts to develop fast breeder technology.⁶⁸

The final case that succeeded in halting a project involved a Spanish nuclear waste management site near the border with Portugal. In 1980, the two countries signed a Protocol for Cooperation in Nuclear Safety and an Agreement for the Safety of Border Nuclear Installations. This latter 10-year agreement included the obligation to provide early notice of the intention to build, operate or use nuclear facilities within 30 km of the shared border.⁶⁹ Both the countries joined the European Economic Community in 1986. Just 1 year later, in 1987, the Spanish government approved the First Nuclear Waste Plan for Radioactive Waste, which included an experimental radioactive waste management project, Instalación Piloto Experimental Subterráneo (IPES). The site chosen to build the IPES was a village 4 km from Portuguese territory, located in the basin of the Douro River, a transboundary river between Spain and Portugal. There is no evidence that Spain consulted Portugal in advance of the decision, as required by the Protocol, and the project unleashed a torrent of protests on both sides of the border.⁷⁰

Some 30,000 Portuguese and Spanish protesters gathered in 1987 at Salamanca, in Spain. Even the Catholic Church in Portugal came out against the project, and Portugal's government used both bilateral diplomatic action and multilateral-level action through the European Council of Ministers to resist plans to build the waste disposal facility. Eventually, Spain officially ended the project in October 1987, although Spain attributed its closure to an issue of financing while Portugal saw it as the result of their successful diplomacy.⁷¹

Cases where later engagement led to some improvement in practices

Whilst objections from neighbouring states may have led to few civil nuclear projects being abandoned, they have resulted in improvements in practices and levels of engagement. Our study drew on four examples, three from Europe and one from Asia. The first two European examples both involve institutions of the EU.

Portugal and Spain's Almaraz plant

Spain's Almaraz nuclear power plant lies about 100 km from the border with Portugal and was built with the agreement of Portugal, coming into commercial operation in 1983. In December 2016, the Spanish government announced its plans to build a nuclear waste storage facility at the Almaraz nuclear power plant and to extend the life of the two existing reactors at the site. By this time, the 1980 Protocol on Cooperation had long expired and the announcement was met with public protests in Spain.⁷² The Portuguese government also took issue with the decision. It took the matter to the European Commission, contending that Spain

66 See Le Renard (n 63).

67 *ibid.*

68 Anonymous, 'France says Goodbye to the Fast Breeder as Superphénix' (1997) 385 *Nature* 104.

69 Rubio-Varas and others, 'Siting (and Mining) at the Border: Spain-Portugal Nuclear Transboundary Issues' (2018) 3 *Journal for the History of Environment and Society* 43.

70 *ibid.*

71 *ibid.*

72 *ibid.*

violated a directive of the European Parliament and European Council that required countries to ‘initiate consultations’ on ‘potential transboundary repercussions’ to the environment.⁷³ In January 2017, Portugal’s Parliament voted unanimously to call for the closure of the Almaraz plant. However, the Spanish government dismissed the demand and insisted that construction continue as scheduled.

In February 2017, under the auspices of the European Commission, the two nations came to an agreement that Spain would postpone the project and allow Portugal greater involvement. A working group comprising members of the Portuguese Environmental Agency, the National Department of Health and the National Society of Engineers was commissioned in April 2017 to assess the potential transnational impact of the nuclear waste depot at the Almaraz nuclear power plant.⁷⁴

However, many non-governmental organisations (NGOs) in both Spain and Portugal remained unsatisfied with this arrangement. In June 2017, protesters from both Spain and Portugal marched against Almaraz and the Spanish nuclear endeavour. Ultimately, reluctant to make the Almaraz plant a cause for confrontation with Spain, the Portuguese government attempted to quell the disputes and silence the public dissent based on technical arguments.⁷⁵ In 2020, the Spanish government approved the draft General Radioactive Waste Plan,⁷⁶ and allowed unit I of the Almaraz plant to operate until 1 November 2027 and unit II until 31 October 2028.⁷⁷ One curious feature of these recent disputes is that Portugal did not use the dispute resolution mechanism offered by the Espoo Convention, to which both countries were parties.

Austria and the Czech Republic’s Temelín plant

The second case that drew in the institutions of the EU was the dispute between Austria and the Czech Republic over the latter’s Temelín nuclear power plant. Temelín was originally planned in 1982 as a four-unit Soviet-style nuclear power plant. Construction on the first two units began in 1987, but the Velvet Revolution in 1989 brought a democratic government to Czechoslovakia. This new government, while still largely pro-nuclear, was cognizant of the 1986 Chernobyl accident, and of the new plant’s possible environmental dangers, IAEA-identified design flaws and connotation with the country’s communist past.⁷⁸ The new government thus chose in 1990 to completely suspend plans for the third and fourth reactors, but in 1993 contracted the US company, Westinghouse, to make the first two reactors operational.

From the start, Austria was strongly opposed to Temelín for safety reasons: this would be the first time that Western nuclear technology be retrofitted to Soviet nuclear technology, and there were many questions on how or even if it could be done. Even before Westinghouse was selected for the project, Austria had already begun lobbying the USA to oppose the nuclear power plant upgrades.⁷⁹ Another major safety concern for Austria was that the Czech government refused to complete an EIA, claiming that the initial assessment conducted in the 1980s for the original Soviet design was sufficient.⁸⁰ By 1994, over 1 million Austrians had signed a petition protesting a US loan for Temelín.⁸¹ However, at this point, Austria was still trying to

73 ‘Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 Amending Directive 2011/92/EU on the Assessment of the Effects of Certain Public and Private Projects on the Environment’, European Union 2014/52/EU (16 April 2014).

74 Rubio-Varas and others (n 69).

75 Ben Hudspeth, ‘Implications of Nuclear Spain on Nuclear-Free Portugal’ (*ArcGIS StoryMaps*, 2 November 2019) <<https://storymaps.arcgis.com/stories/020fc0e9e9ea458bb81bf8356d5eef5e>> accessed 29 July 2020.

76 ‘Used Fuel Containers Ordered for Spanish Nuclear Power Plants’ (*Nuclear Engineering International*, 27 March 2020) <<https://www.neimagazine.com/news/newsused-fuel-containers-ordered-for-spanish-nuclear-power-plants-7839019>> accessed 29 July 2020.

77 Jornal Económico with Lusa, ‘Spanish Nuclear Power Plant in Almaraz Authorized to Operate until 2028’ (*Jornal Económico*, 8 May 2020) <<https://jornaleconomico.sapo.pt/en/news/Spanish-nuclear-power-plant-in-Almaraz-authorized-to-operate-until-2028-586165>> accessed 29 July 2020.

78 Rick Fawn, ‘The Temelín Nuclear Power Plant and the European Union in Austrian–Czech Relations’ (2006) 39(1) *Communist and Post-Communist Studies* 102.

79 Regina S Axelrod, ‘Nuclear Power and EU Enlargement: The Case of Temelín’ (2004) 13(1) *Environmental Politics* 155.

80 Regina S Axelrod, ‘Temelín: Nuclear Power and Building Democracy’ (2000) 15 *Perspectives* 31.

81 *ibid.*

find ways to work with the Czech Republic. Austria's energy assistance programme gave aid to the Czech Republic for addressing pollution and rehabilitation of their power sector, which strengthened both the relations between the two countries and the non-nuclear foundations of the Czech energy sector.⁸²

In 2000, Austria made their case in Brussels for its sovereign interest in protecting its citizens and environment against nuclear incidents, accidents and radioactive waste from other nations' nuclear power plants including Temelín. In pursuing this strategy, Austria wanted to shut down Temelín but also to create standards for nuclear power plants within EU member countries.⁸³ However, some factions, including the Austrian Greens, used this to explicitly call for the Czech Republic to close Temelín before being allowed into the EU.⁸⁴ While never becoming official Austrian policy, this idea gained public support and the government later linked Temelín to approval of the Czech Republic's energy chapter, which would stall the entire accession process.⁸⁵

As the issue escalated, both governments agreed to invite the European Commission to come as a mediator. After much debate, the parties arrived at the Melk Agreement in 2001: the Czechs agreed to conduct a retroactive EIA and establish a direct hotline with Austria to immediately inform the latter if a nuclear incident occurred. The Austrians agreed to drop their holdup of EU accession and end the border blockades.⁸⁶ The two reactors entered commercial operation in 2002 and 2003, respectively.

With the Czech Republic holding up its side of the Melk Agreement to the satisfaction of the EU and IAEA, it joined the EU in 2004 with Temelín still in operation. Contrary to Austrian expectations, the EU was not willing to completely side with Austria.⁸⁷ While Austria's plans to shut down the plant ultimately failed, it was partially responsible for the 2-year delay in commercial operation. It also ensured that additional nuclear power plant safety and transparency requirements were created within both the Czech Republic and the EU.

Lithuania and Belarus' Ostrovets plant

In 2008, Belarus decided to build a nuclear power plant in Ostrovets, approximately 25 km from the Lithuanian border. This site was selected in part because there were no villages within Belarus in close proximity of Ostrovets. However, the Lithuanian capital of Vilnius is less than 50 km away. There does not appear to have been any communication between the two parties over the plant until 2011, immediately after the Fukushima Daiichi nuclear accident in Japan.

In June 2011, Lithuania made a submission to the Implementation Committee of the Espoo Convention,⁸⁸ arguing that Belarus was in non-compliance with its obligations under the Convention with respect to the Ostrovets nuclear power plant because the decision on the site was made in the 'absence of fulfilled procedures required by Espoo Convention (properly prepared EIA report, organisation of requested public hearings and consultations)'.⁸⁹ As a result, Lithuania sought the Committee's support in requiring Belarus to restart the EIA process.

82 Office of Technology Assessment, US Congress, *Fueling Reform: Energy Technologies for the Former East Bloc*, Report OTA-ETI-599 (Government Printing Office 1994) 166.

83 *ibid* 156.

84 *ibid* 155.

85 *ibid* 41.

86 Axelrod (n 79).

87 *ibid* 114.

88 Lithuania and Belarus became Parties to the Espoo Convention in 2001 and 2005, respectively, see United Nations Treaty Collection <https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-4&chapter=27&lang=en>. Lithuania became Party to the Kyiv Protocol on 2011, but Belarus has not yet taken this step <https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-4-b&chapter=27&lang=en> accessed 18 June 2020.

89 Aleksandras Spruogis, 'Submission by Lithuania Having Concerns About the Compliance of the Republic of Belarus with Its Obligations under Espoo Convention with Respect to the Construction of the Nuclear Power Plant in the Republic of Belarus' (10-3)-D8-5314, The

In March 2018, the Committee took an unprecedented step of analysing Belarus's EIA documentation.⁹⁰ In February 2019, the Committee made its final decision on the matter, issued as the decision on 'compliance by Belarus with its obligations under the Convention'.⁹¹ Key points of the decision were that:

1. Belarus failed to 'provide sufficient information supporting and justifying the selection of the [Ostrovets] site to take the final decision on the activity'.⁹²
2. Belarus and Lithuania were unable to conclude a bilateral agreement on the implementation of the Convention and establish a joint bilateral body for future post-project analysis.⁹³

In this way, the Implementation Committee of the Espoo Convention facilitated transboundary engagement between Belarus and Lithuania. As a result of its engagement, Belarus introduced substantial revisions to its domestic legislation on EIA to ensure compliance with the Espoo Convention in the future. Further, the involvement of the Implementation Committee demonstrated how the Espoo Convention can provide countries a forum to address each other's concerns. Nevertheless, construction of the two reactors at Ostrovets continued. An operating license for the first reactor was issued in June 2021, whilst the second is expected to come online in 2022.⁹⁴ In an interview on 14 May 2020, Lithuanian President Nausėda conceded that the Ostrovets nuclear power plant is effectively an irreversible reality and that Lithuania will in the future focus on pressing Belarus to implement proper safety requirements.⁹⁵

Vietnam and China's Fangchenggang plant

China's Fangchenggang nuclear power plant in Guangxi Province is about 50 km from the border with Vietnam. Construction of units 1 and 2 started in 2010 and 2011 and they came into commercial operation in January and October 2016, respectively. Construction of units 3 and 4 began in 2015 and 2016, respectively, and are due to be connected to the grid in 2022. The EIA report completed in August 2009 makes no mention of Vietnam and shows the country as a blank, empty area on the maps.⁹⁶ After the location of the plant was announced in 2010, the former director of the Vietnam Atomic Energy Commission, Pham Duy Hien, said in an interview that the two countries 'could negotiate' and Vietnam 'should propose to China to discuss relevant matters'. The wording indicates that Vietnam had not consulted nor been consulted by China on the plant's siting.⁹⁷

Ministry of Environment of the Republic of Lithuania (7 June 2011) <https://www.unece.org/fileadmin/DAM/env/documents/2019/ece/Restart/Belarus/Submission_by_Lithuania_received_June_2011_ref._5314.pdf> accessed 20 June 2020.

90 UNECE, 'Report of the Implementation Committee on Its Forty-First Session', ECE/MP.EIA/IC/2018/2, paras 42, 44, 45, United Nations Economic and Social Council (2018) <<http://www.unece.org/index.php?id=47325>> accessed 2 July 2020.

91 UNECE, 'Draft Decision IS/1d on Compliance by Belarus with Its Obligations under the Convention in Respect of the Belarusian Nuclear Power Plant in Ostrovets', ECE/MP.EIA/2019/5, United Nations Economic and Social Council (2018) <<https://www.unece.org/index.php?id=48313>> accessed 2 July 2020.

92 UNECE, 'Report of the Implementation Committee on Its Forty-Second Session', ECE/MP.EIA/IC/2018/4, para 28(a), United Nations Economic and Social Council (2018) <<https://undocs.org/ECE/MP.EIA/IC/2018/4>> accessed 2 July 2020.

93 UNECE (n 91).

94 World Nuclear Association, 'Nuclear Power in Belarus', Country Profiles, last modified June 2021 <<https://www.world-nuclear.org/information-library/country-profiles/countries-a-f/belarus.aspx>> accessed 7 July 2021.

95 "'We Did Nothing.' Lithuanian President Says Belarus' Nuclear Plant Here to Stay' *Lithuanian National Television and Radio* (14 May 2020) <<https://www.lrt.lt/en/news-in-english/19/1178430/we-did-nothing-lithuanian-president-says-belarus-nuclear-plant-here-to-stay>> accessed 21 July 2020.

96 'Fangchenggang Nuclear Power Plant Unit 1 and Unit 2, Environmental Impact Report, Design Stage, Short Version' (August 2009), unpublished (in Chinese).

97 'Trung Quốc Sẽ Xây Nhà Máy Điện Hạt Nhân Gần Việt Nam, [China Will Build a Nuclear Power Plant near Vietnam]' (*Tui Tr Online*, 22 July 2010) <<https://tuotrie.vn/trung-quoc-se-xay-nha-may-dien-hat-nhan-gan-viet-nam-391439.htm>> accessed 19 January 2021.

However, Vietnam might have had some advance knowledge of Fangchenggang and other nuclear power plants close to Vietnam, given that the choice of the site dated back to at least 2008, according to Japanese research.⁹⁸ At that time, Vietnam was not party to the CNS, and so China was not obliged to consult it. Further, not officially addressing the Fangchenggang plant might have been deliberate on the Vietnamese side. From 2008, Vietnam began its own nuclear power programme by confirming sites for nuclear power plants,⁹⁹ and, in 2010, announced its plan to construct nuclear reactors, initially in the south of the country using a Russian reactor design.¹⁰⁰ The Vietnamese government may have decided that any mention of the Chinese nuclear plant near the border would be publicly detrimental to its own national nuclear power programme.

Between 2011 and 2015, relations between Vietnam and China were tense on account of confrontation in the South China Sea. Improving relations between the two countries led to a memorandum of understanding (MOU) being signed in November 2017 between the Vietnam Agency for Radiation and Nuclear Safety and China's National Nuclear Safety Administration.¹⁰¹ This MOU addressed a number of topics including capacity building, safety inspection, incident response and radiation detection technology. Until this time, China seems to have made no moves to share information on the Fangchenggang plant or to cooperate with Vietnam on emergency response planning, although the first two reactors had come into commercial operation the previous year.

The signing of the new memorandum was followed by exchange visits in 2018 and 2019. In 2018, the Vietnamese delegation was able to visit Fangchenggang itself and was briefed on the plant's safety design and protocols. Meanwhile, the Chinese side offered to share operational and environmental data, notify Vietnam of any nuclear incident and train Vietnamese nuclear personnel on Chinese reactor design. The Chinese also informed the Vietnamese of China's intention to build monitoring stations near the border to exchange information with Vietnam's monitoring stations.¹⁰²

Cases where later engagement failed to lead to change

We examined four cases where later attempts at engagement failed to result in any change of plans on the part of the newbuild or newcomer country. Three of these involved Austria and countries that do not neighbour it. The fourth case relates to Turkey and Cyprus.

Austria and Slovakia's Mochovce plant

As has been mentioned above, Austria has long pursued an agenda of ending the use of civil nuclear power in Europe. Whilst it was successful in persuading Germany and Switzerland to drop their plans and to enhance the transparency and safety standards at the Czech Temelín plant, it has been less successful at imposing its will on more distant countries, namely Slovakia, Poland and the UK.

Located 120 km from the border with Austria, Slovakia's Mochovce nuclear power plant was seen as a safety risk by a broad swath of Austrian society. Construction of the first two reactors started in 1982 but

98 Hideo Kubota, 'China's Nuclear Industry at a Turning Point', (2009) 1(3) E-Journal of Advanced Maintenance <<https://www.jsm.or.jp/ejam/Vol.1.No.3/GA/6/article.html>> accessed 21 January 2021.

99 Vietnam passed a Law on Atomic Energy in mid-2008, preceded by nuclear power development plans approved by the government in 2007. Earliest proposals dated back to 2006.

100 EVN Central Power Corporation, 'Nhà Máy Điện Hạt Nhân Đầu Tiên Của Việt Nam Sẽ Do Nga Xây Dựng [The First Nuclear Power Plant in Vietnam Will Be Built by Russia]' (31 May 2010) <<https://cpc.vn/vi-vn/Tin-tuc-su-kien/Tin-tuc-chi-tiet/articleId/2883>> accessed 19 January 2021.

101 Ministry of Science and Technology, Vietnam, 'Việt Nam Và Trung Quốc Ký Thỏa Thuận Hợp Tác Về an Toàn Hạt Nhân [Vietnam and China Sign Agreement on Nuclear Safety Cooperation]' (15 November 2017) <<https://www.most.gov.vn/vn/tin-tuc/13063/viet-nam-va-trung-quoc-ky-thoa-thuan-hop-tac-ve-an-toan-hat-nhan.aspx>> accessed 19 January 2021.

102 Vietnam Agency for Radiation and Nuclear Safety (VARANS), 'Thúc Đẩy Hợp Tác Song Phương Việt Nam—Trung Quốc Về an Toàn Hạt Nhân [Facilitating Nuclear Safety Cooperation Vietnam-China]' (2018) <<https://www.varans.vn/tin-tuc/4015/thuc-day-hop-tac-song-phuong-viet-nam-trung-quoc-ve-an-toan-hat-nhan.html>> accessed 19 January 2021.

they were commissioned only in 1998. In 1994, Austrian citizens collected over 1 million signatures for the plant's closure. Austrian academics identified potentially devastating effects on Austria should the plant fail, and the Austrian government convinced the European Bank for Reconstruction and Development to withhold its funding for the project.¹⁰³ In addition to safety concerns, Austria argued that Slovakia was already a net energy exporter so closing additional nuclear power plants would not affect Slovakia's energy independence, and that better investments could be made in increasing energy efficiency and other renewable sources like biomass. Austria's goal was to completely shut down the project, not just change its location.

Austria used its soft power to influence Slovakia's decision-making as well. In the 1990s, Austria's energy assistance programme gave aid to Slovenia to address pollution and to rehabilitate its (non-nuclear) power sector.¹⁰⁴ Austria also used other methods which met with some disapproval. It used media and diplomacy to display 'official outrage' regarding Slovakia's nuclear power plants.¹⁰⁵ The government commissioned and published critical assessments of the site, citing safety risks and lack of economic viability. Regardless of Austria's efforts, Slovakia was able to acquire other—largely Russian—funding to complete the project.¹⁰⁶

Austria and Poland's nuclear power programme

Poland has long identified nuclear energy as an ideal way to meet rising energy demands, maintain stable and affordable electricity, maintain energy independence, and meet the EU's climate targets.¹⁰⁷ The government's 2018 plan to address climate change included the goal of building six new nuclear power plants between 2033 and 2043.¹⁰⁸ The first plant would be at Zarnowiec, north of Gdansk, on the coast of the Baltic Sea and about 700 km from the Austrian border. With these plans, the Polish government stated that it saw 'no potentially significant' transnational impact on the environment based on its 2011 strategic environmental assessment. Thus, no transboundary EIA was deemed necessary for the identified sites.¹⁰⁹ However, Austria, while not bordering Poland, requested a cross-border impact assessment soon after learning of Poland's plans, in early 2019. It argued that Poland's 2011 assessment was completed before international requirements were changed after the Fukushima accident and that the assessment results were therefore no longer valid. Austria received the transboundary assessment almost a year later and responded with multiple safety concerns within 2 weeks of its receipt.¹¹⁰

Funding constraints also prevented Poland from building its planned nuclear power plants. In 2019, Poland had hoped to gain European funding for the nuclear power plants to meet the EU goal to reach zero emissions by 2050. However, the EU's Just Transition Fund explicitly disallows the financing of nuclear power plants. Austria was partially responsible for this rule, which is also one of the reasons why Poland was the only EU country not signing the 2019 agreement of achieving climate neutrality by 2050.¹¹¹ However, within 1 year, the USA had stepped in to provide technology and financing for Poland nuclear power programme.¹¹²

103 Ragnar Lofstedt, 'Are Renewables an Alternative to Nuclear Power? An Analysis of the Austria/Slovakia Discussions' (2008) 36(6) *Energy Policy* 2228.

104 Office of Technology Assessment (n 82).

105 Tony Wesolowsky, 'Sparring over Mochovce' (1998) 54(6) *Bulletin of the Atomic Scientists* 19.

106 Lofstedt (n 103).

107 Ministry of Economy, Poland, 'Polish Nuclear Power Programme' (2014) 2 <<https://www.paa.gov.pl/sites/default/files/PPEJ%20eng.2014.pdf>> accessed 7 May 2020.

108 Ministry of Energy, Poland, 'Extract from the Draft of Energy Policy of Poland until 2040' (2018) 4.

109 Łukasz Szudlarek and others, *Strategic Environmental Assessment Report for the Polish Nuclear Programme* (2012) <https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Umweltpruefungen/sup_polen_studie_en.pdf> accessed 7 May 2020.

110 Florence Schulz, 'Poland's First Nuclear Power Plants Are Attracting Criticism—from Neighbours' (*EurActiv*, 26 February 2020) <<https://www.euractiv.com/section/energy/news/polands-first-nuclear-power-plants-are-attracting-criticism-from-its-neighbours/>> accessed 10 May 2020.

111 'EU Hammers Out 2050 Climate Neutrality Deal, Leaves Poland Out' (*CGTN*, 13 December 2019) <<https://news.cgtn.com/news/2019-12-13/EU-leaders-in-summit-clash-on-climate-nuclear-power-MnFoO6UYKc/index.html>> accessed 9 May 2020.

112 'Polish-US Civil Nuclear Agreement Enters into Force' *World Nuclear News* (3 March 2021) <<https://world-nuclear-news.org/Articles/Polish-US-civil-nuclear-agreement-enters-into-forc>> accessed 24 June 2020.

Austria and the UK's Hinkley Point C plant

In 2012, the UK chose to renew their commitment to nuclear energy by granting a license for a new nuclear power plant, Hinkley Point C, 1000 km away from the Austrian border. However, it soon became clear that the cost would be very high and that the project would require a subsidy. To address this problem, the government agreed a strike price with EDF, the plant operator, that was about double that of the wholesale market price in 2015. Subsidies for the strike price alone are estimated to cost anywhere from GBP 3 billion to GBP 40 billion over the plant's 35-year lifespan.¹¹³

In 2014, the European Commission approved the project and the UK's state aid plan. However, Austria challenged this ruling by taking the European Commission to the EU Court of Justice.¹¹⁴ Austria claimed that the use of state aid interferes with market competition. The court ruled in the European Commission's favour in 2018. Along with the UK, the Czech Republic, France, Hungary, Poland, Romania and Slovakia showed support for the European Commission's decision; Austria then appealed. In September 2020, the EU's highest court approved British government subsidies for Hinkley Point C nuclear power plant.¹¹⁵ Construction at the nuclear power plant is continuing, but there have been some delays and the plant is now expected to begin operations in 2026.¹¹⁶

Cyprus and Turkey's Akkuyu plant

The final example involves Cyprus and Turkey's Akkuyu plant which lies approximately 115 km from the northern border of Cyprus and from the capital, Nicosia. The plant is also just 70 km de facto Turkish Republic of Northern Cyprus. Under an intergovernmental agreement signed in 2010 between Turkey and Russia, ROSATOM is the plant operator under a build-own-operate model.¹¹⁷ After the withdrawal of Turkish investor, ROSATOM now owns 99.2 per cent of the project.¹¹⁸

The 2011 Fukushima accident sparked concern over the project, from both various domestic and international interest groups.¹¹⁹ The finding that Akkuyu sits near an active fault line and a rushed EIA lacking transparency are some of the major complaints against the project.¹²⁰ Additionally, evidence emerged in 2015 that the approved EIA contained forged signatures.¹²¹ The site and transparency of the project are of particular concern to Cyprus due to its proximity. In a rare sign of unity with its southern neighbour, the Turkish Cypriot authorities have also protested to Turkey.¹²²

113 Richard Bridle and Clement Attwood, 'It's Official: The United Kingdom Is to Subsidize Nuclear Power, But at What Cost?', *Global Sustainable Initiatives Report* (International Institute for Sustainable Development February 2016) <<https://www.iisd.org/system/files/publications/united-kingdom-subsidize-nuclear-power-at-what-cost.pdf>> accessed 11 May 2020.

114 'EU Advocate General Supports Hinkley Point Project Despite Austrian Protests' *Nuclear Engineering International* (11 May 2020) <<https://www.neimagazine.com/news/newseu-advocate-general-supports-hinkley-point-project-despite-austrian-protests-7917762>> accessed 12 June 2020.

115 'EU Court Approves UK State Aid for Nuclear Plant' *Times of Malta* (23 September 2020) <<https://timesofmalta.com/articles/view/eu-court-approves-uk-state-aid-for-nuclear-plant.819706>> accessed 18 January 2021.

116 Dave Harvey, 'Hinkley C: Hundreds More Needed to Finish Nuclear Power Station' *BBC News* (25 May 2021) <<https://www.bbc.com/news/uk-england-somerset-57227918>> accessed 5 June 2021.

117 IAEA, 'Country Nuclear Power Profiles: Turkey' (2020) <<https://cnpp.iaea.org/countryprofiles/Turkey/Turkey.htm>> accessed October 24 2020.

118 Charles Digges, 'A Divide Cyprus Unites to Oppose Russian-Built Nuclear Plant' (*Bellona.org*, 1 May 2018) <<https://bellona.org/news/nuclear-issues/2018-05-a-divide-cyprus-unites-to-oppose-russian-built-nuclear-plant>> accessed 7 September 2020.

119 Julia Harte, 'Building of Turkey's First Nuclear Plant, Sited on a Fault Line, Facing Fresh Questions' (*Reuters*, 26 March 2011) <<https://www.reuters.com/article/idUS122778134920110325>> accessed 7 September 2020.

120 *ibid.*

121 Pinar Temocin, *Framing Opposition to Nuclear Power: The Case of Akkuyu in Southeast Turkey*, vol. 6 (Seoul National University 2018).

122 Digges (n 118).

Cyprus has repeatedly gone to the EU to try to force Turkey to give up the project. These calls have taken such forms as an EU fact-finding mission in 2015 and a parliamentary question posed in 2019.¹²³ While the EU has supported Cyprus by warning Turkey to improve its safety legislation and EIA,¹²⁴ Turkey is not an EU member, and so these warnings have had limited impact. Likewise, Turkey is not a party to the Espoo Convention. Bilateral relations regarding the Akkuyu nuclear power plant are further complicated by the fact that Cyprus and Turkey do not have diplomatic ties, and a complex history makes negotiation challenging.¹²⁵ Construction on the first reactor began in 2018 and is due to become operational in 2023. Construction on the second and third started in 2020 and 2021, respectively.¹²⁶

5. CONCLUSIONS

The aim of this study was to assess the degree to which nuclear newbuild and newcomer countries have been adhering to international obligations and norms requiring them to consult potentially risk-exposed nations in a timely manner. Where such prior consultation had not taken place, a further aim was to examine the strategies the risk-exposed nation pursued and identify the factors that shaped the resolution or non-resolution of the dispute.

Of the 15 cases examined, clear evidence of prior consultation exists in only 3. The key determinant in two of these was mutual economic interest, underpinned by good bilateral relations: sharing electricity supplies from the power plant in the case of Sweden and Denmark, and the provision of construction and other services in the case of Bangladesh and India. The initial concurrence between Sweden and Denmark occurred well before the CNS and before either joined the EU. Bangladesh and India are both parties to the CNS, but no other treaty exists to obligate consultation. The case of Hungary and Austria appears to show that Hungary was fulfilling its obligations under the Espoo Convention and the Kyiv Protocol.

Despite prior consultation, disputes still arose in two of these cases. The Three-Mile Island and Chernobyl nuclear accidents triggered the rise of anti-nuclear movements, first in Denmark and later in Sweden. This was capped by incidents at Sweden's own plant. The result was the closure of this plant. Austria continued to object to Hungary's plans, despite prior consultation, and the case remains in the European Court of Justice.

There is no clear evidence of prior consultation in the 12 remaining cases examined, but in all of them the potentially risk-exposed nation took action to try to prevent the construction of the nuclear installation. They were successful in only three instances, each of which involved countries with good bilateral relations: Switzerland–Austria, Germany–Austria and Spain–Portugal (IPES). Another common factor was the presence of anti-nuclear movements, either nationwide or local, in the newbuild country itself.

The study identified four examples where pressure from the risk-exposed neighbour resulted in some improvements in the behaviour of the newbuild or newcomer state. Such an improvement included, variously, greater transparency of information, active cooperation and higher safety standards. Treaty organizations were directly involved in the partial resolution of three of these cases: the EU with Spain and Portugal (Almaraz plant) and with the Czech Republic and Austria, and the Espoo Convention in the case of Belarus and Lithuania. China and Vietnam are both parties to the CNS, but no other treaty obliged China to consult

123 Giorgos Georgiou, 'Cracks in the Base of the Akkuyu Nuclear Reactor', P-002485-19, European Parliament (2019) <https://www.europa.eu/doceo/document/P-9-2019-002485_EN.html> accessed 9 September 2020.

124 Johannes Hahn, 'Answer Given by Mr Hahn on Behalf of the European Commission, Question Reference: P-002485/2019', European Parliament (18 September 2019) <https://www.europarl.europa.eu/doceo/document/P-9-2019-002485-ASW_EN.html> accessed 7 September 2020.

125 Hüseyin İşiksal, 'Dilemmas of the Contradictory EU Membership of the Republic of Cyprus and Turkey-EU Relations' (2019) 12(24) *Gazi Akademik Bakis Dergisi* 119.

126 World Nuclear Association, 'Nuclear Power in Turkey' (2021) <<https://world-nuclear.org/information-library/country-profiles/countries-t-z/turkey.aspx>> accessed 7 October 2021.

Vietnam. The belated steps taken by China to cooperate with its neighbour began as bilateral relations improved.

Of the four cases where actions by the risk-exposed neighbour failed to change the plans of the newbuild or newcomer country, only one involved countries with hostile bilateral relations: Turkey and Cyprus. Long-standing tensions between these two nations combined with Turkey's lack of membership of the EU and failure to become party to the Aarhus and Espoo Conventions, has given Cyprus little recourse. The attempts by Austria to halt the plans of the UK and Poland through the institutions of the EU involved nuclear plants hundreds of kilometres from its border. The European Court of Justice ruled in favour of the UK, and Poland succeeded in undermining Austria's argument by obtaining funding from the USA. In a similar manner, prevented by Austria from receiving financing from the European Bank for Reconstruction and Development, Slovakia turned to Russia for support.

The wider lesson from these examples is that customary international law, the CNS, and IAEA guidance and standards together do not seem to have great effect with respect to the requirement for newbuild and newcomer countries to consult with potentially risk-exposed nations prior to making decisions relating to nuclear installations. Rather, prior consultation is more likely to occur where mutual interest in the project exists and where bilateral relations are good. Good bilateral relations can also result in the partial or total resolution of the dispute in cases where prior consultation did not take place.

Regional organizations like the EU and international environmental treaties, such as the Espoo Convention, do not appear to play a strong role yet in encouraging prior consultation by members or contracting parties. However, they do provide fora and mechanisms for resolving disputes. Such resolutions may lead to greater transparency and higher safety standards on the part of the newbuild or newcomer country. Nevertheless, not all cases may be resolved in the favour of the risk-exposed neighbour.

Where one or both countries are not party to a regional organization or relevant treaty with a robust dispute resolution mechanism, the potentially risk-exposed neighbour appears to be reliant solely on the goodwill of the newbuild or newcomer country. This raises questions over the usefulness of the CNS and the IAEA when it comes to the need to proactively consult potentially risk-exposed contracting states.

The CNS and the actions of the IAEA have certainly been successful in raising safety standards across the world. However, a number of lacunae exist, notably the failure of most newbuild and newcomer countries to consult their risk-exposed contracting parties in a timely manner. The origin of this weakness lies in the Convention itself. In his analysis, Gunther Handl acknowledged that the self-description of the Convention is to be an 'incentive instrument' focusing on principles and general requirements rather than providing specific safety standards. He argued that its softness arises from a realistic assessment of what was seen as feasible to attract as many parties as possible to participate. In theory, these deficiencies are addressed by the IAEA through their principles, standards and guidance and the review mechanisms, but these are not binding.¹²⁷ Trevor Findlay highlighted that the Convention 'has no monitoring, verification or compliance systems, and no penalties for non-compliance'. Further, no mechanism exists to attach safety standards as annexes to the Convention. Only an amendment to the Convention is possible.¹²⁸ After the Fukushima-Daiichi nuclear accident, a move to make peer review missions compulsory met objections on grounds of sovereignty. A proposal that the Convention be amended to include specific safety standards was blocked by countries with large fleets of old reactors.¹²⁹

127 Gunther Handl, 'The IAEA Nuclear Safety Conventions: An Example of Successful "Treaty Management"?' (2003) 72 Nuclear Law Bulletin 7.

128 Trevor Findlay, *Unleashing the Nuclear Watchdog. Strengthening and Reform of the IAEA* (Centre for International Governance Innovation 2012).

129 Michel Mountjoie, 'Treaty Implementation Applied to Conventions on Nuclear Safety', (2015) 96 Nuclear Law Bulletin 9; Mark Hibbs, 'A Failed Effort to Toughen Nuclear Safety Standards' (Carnegie Endowment for Peace, 18 February 2015) <<https://carnegieendowment.org/2015/02/18/failed-effort-to-toughen-nuclear-safety-standards-pub-59114>> accessed 8 June 2021.

The lessons for potentially risk-exposed contracting parties are 2-fold. First, they themselves must be proactive in monitoring and seeking engagement with nearby states that have or may have plans for new nuclear installations. Secondly, in the absence of a regional organization with robust rules on consultation and mechanisms for dispute resolution, countries can try to persuade the relevant states either to create such a regional organization or to accede to an existing treaty such as the Espoo Convention. Failing that, they can try to reach formal bilateral agreements with the relevant neighbours, as Portugal and Spain did with their Protocol in 1980.