

ESI-CIL Nuclear Governance Project

A multidisciplinary research project by the Energy Studies Institute & Centre for International Law

Regional Cooperation to Enhance Transboundary Consultation on Nuclear Power Development in Southeast Asia

Singapore, 8 - 9 May 2019

SUMMARY REPORT

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I. OBJECTIVES AND STRUCTURE

The ESI-CIL Nuclear Governance Project organised a two-day workshop entitled “Regional Cooperation to Enhance Transboundary Consultation on Nuclear Power Development in Southeast Asia” for invited participants which was held on the 8th and 9th of May in Singapore. The overall objective of the workshop was to discuss what ASEAN Member States could and/or should do to promote transboundary consultation on nuclear power development in the region. This would be related to a state’s national decision to embark on a nuclear power programme and the siting of a nuclear power plant, taking into account the current international and ASEAN legal and governance frameworks. At present, ASEAN does not have a regional framework that addresses these issues. The workshop explored how the project-level environmental impact assessment (EIA) and strategic environmental assessment (SEA) of plans and programmes, could serve as useful platforms for such transboundary consultation. The aim was to develop a common understanding on EIA and SEA so as to equip participants to recognise potential opportunities for transboundary consultation on the related environmental and health impacts and their assessment during the different stages of development of nuclear power. For the avoidance of doubt, references in this report to environmental considerations and impacts include considerations and impacts related to human health.

The workshop comprised three panel sessions held over two days on (i) context and key issues; (ii) the international legal and governance framework; and (iii) the legal and governance background relevant to nuclear power development within Southeast Asia. After setting the context and identifying the key issues, the international legal and governance framework relevant to EIA was examined, followed by SEA. Participants were mindful that a clear understanding of EIA is required to develop an understanding of SEA, which tends to be more abstract in nature as compared to EIA. This was broken into three parts: (i) the position under customary international law which is binding on all states, including all ASEAN Member States; (ii) the position under the conventions, standards and guidance developed by the International Atomic Energy Agency (IAEA), as they are directly applicable to all ASEAN Member States as Member States of the IAEA; and (iii) the position under specialised international instruments that specifically provide for transboundary consultation, i.e. the 1991 Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) and the 2003 Protocol on Strategic Environmental Assessment (Kyiv Protocol) developed under the auspices of the United Nations Economic Commission for Europe (UNECE) (these being widely regarded as reflective of best or good practices).

At the regional level, the workshop provided an overview of (i) the EIA and SEA processes that exist within ASEAN at the sub-regional (Mekong River Basin) and national levels and the extent to which they provide for transboundary consultation; (ii) the ESI-CIL Nuclear Governance Project’s research findings on the evolving ASEAN approach towards nuclear energy governance and the ASEAN legal and governance framework applicable to the nuclear energy sector; and (iii) the potential challenges to ASEAN cooperation on transboundary consultation related to nuclear power development. In the absence of an ASEAN framework that addresses these issues, participants were given the opportunity to exchange views on what ASEAN could and/or should do to promote transboundary consultation during a practical exercise.

II. OUTCOMES AND FINDINGS

A main outcome of the workshop was the building of capacity among workshop participants on the relevant international and ASEAN legal and governance frameworks. In addition to understanding how environmental assessments could help to promote transboundary consultation, participants gained a deeper understanding of how environmental assessments, when conducted properly, can lead to more sustainable development at the project as well as plan and programme (and ultimately, policy and legislation) levels. By anticipating and highlighting potential environmental impacts, and by proposing measures for preventing or mitigating them, these assessments can help avoid or minimise costly mistakes, saving time, effort and money. As systematic decision-support processes that seek to involve all relevant stakeholders (including public authorities, private

entities and the general public, whether in a domestic or transboundary context), environmental assessments not only improve governance but can also build trust and confidence in decision making and avoid or minimise (internal and international) conflict and tension. Major findings from the workshop are summarised below.

1. Where there is a risk of significant transboundary harm, states have an obligation to conduct an EIA and notify and consult with a potentially affected state(s) under customary international law.

1.1. Customary international law obligations, although binding on all states, may sometimes be overlooked. Under customary international law, all states have an obligation to exercise due diligence to prevent transboundary harm from activities within their territory, jurisdiction or control. To fulfil this obligation, states have a duty to conduct an EIA where there is a risk of potential adverse transboundary harm. States also have a duty to notify and consult with potentially affected states if the EIA confirms the risk of significant transboundary harm. It was argued that conventions such as the 1994 Convention on Nuclear Safety, the Espoo Convention and the Kyiv Protocol as well as the IAEA standards and guidance should be read in light of such customary international law obligations. States that are party to the 1982 United Nations Convention on the Law of the Sea have access to the convention's compulsory binding dispute settlement provisions, including the right to request for provisional measures, to address any potential adverse transboundary harm to the marine environment, including harm that may arise from nuclear power plants of another state.

2. Transboundary EIAs facilitate cross-border consultation at the project level and in the context of the siting of a nuclear power plant that may have transboundary impacts, constitute international best practice as recognised by the Member States of the IAEA and the UNECE.

2.1. The IAEA safety standards and guidance recommend that transboundary consultation take place during all phases of development of a Member State's nuclear power programme and support the sharing of information regarding decisions on the implementation of its nuclear power programme with neighbouring states. The IAEA Milestones Approach with its three distinct phases (Consider – Prepare – Construct), each leading to a specific milestone (Decide – Contract – Commission), provides the relevant context within which to anticipate potential opportunities for transboundary consultation based on IAEA safety standards and guidance. For example, even before a national decision is made, a state considering potential sites for a proposed nuclear power plant should begin a dialogue with neighbouring states as part of the site survey process during Phase 1. After the national decision has been made, an EIA should be conducted in relation to the candidate/preferred sites for the proposed nuclear power plant as part of the site selection process. This process should also, where appropriate, entail consultations with neighbouring states.

2.2 The Convention on Nuclear Safety aims to commit contracting parties operating land-based civil nuclear power plants to maintain a high level of safety by establishing fundamental safety principles in different areas, including siting, design, construction and operation. It is a legally-binding instrument under the auspices of the IAEA, expressly requiring contracting parties to ensure that there are procedures for consulting contracting parties in the vicinity of the proposed nuclear installation that are likely to be affected, as part of a broader safety assessment of a proposed nuclear installation. Upon request, such parties are to be provided with the necessary information to enable them to make their own safety impact assessment. At present, only six ASEAN Member States are parties to this

convention.¹ Although transboundary EIAs are not specifically mentioned, they are a mechanism through which the implementation of this obligation can be achieved.

- 2.3 However, the IAEA safety standards and guidance including the IAEA EIA Guidance,² do not prescribe the procedure for or parameters of the contemplated transboundary consultation. The Espoo Convention is currently the only multilateral agreement on transboundary EIA under the umbrella of the United Nations. It applies to proposed activities that could have a significant adverse transboundary environmental impact including nuclear energy-related activities such as the planned construction of a nuclear power plant. The Espoo Convention is considered as laying out best practices on how to conduct a transboundary EIA³ and, among its implementation guidance, there are Good Practice Recommendations that assist parties in their application of the convention to nuclear energy-related activities. Together, they can help to enhance international cooperation in the area of nuclear power development. Currently, the Espoo Convention is only open to UNECE Member States for accession, but steps are being taken so that it can be made open for global accession.⁴
- 2.4 Parties to the Espoo Convention typically accept that the planned construction of a nuclear power plant falls within the application of the convention and would proceed to conduct a transboundary EIA. Under the Espoo Convention, potentially affected states should be notified and provided with the relevant information as soon as possible so that they can decide whether or not to participate in the transboundary EIA process (where they would then be able to provide feedback). This should take place no later than when the public of the state that is proposing to construct a nuclear power plant is notified. In practice, this notification tends to occur not at the screening but the scoping stage (scoping of EIA documentation). Although scoping is not a mandatory procedure, the Espoo Convention recommends that potentially affected states be allowed to participate in any such procedure. In addition to the participation of the authorities of the potentially affected state, the Espoo Convention also provides for the participation of its public in the transboundary EIA process.
- 2.5 By taking into consideration all relevant stakeholders' concerns, including those of the general public, a state that is proposing to construct the nuclear power plant stands to benefit from making informed decisions. The Espoo Convention obliges a state to share with potentially affected states its final decision on the proposed construction of the nuclear power plant and the reasons and considerations on which it was based. This decision must take into due account the outcome of the EIA and comments received during the EIA process, including those from potentially affected states, explaining how this has been done. Rather than losing its decision-making power, the state retains the final word.
- 2.6 The Implementation Committee under the Espoo Convention and its Protocol seeks to ensure compliance with the two treaties by assisting states to comply, rather than punishing non-compliance. Findings of non-compliance by the committee, notwithstanding the lack of sanctions, have a deterrent effect. It was suggested that states do endeavour to comply with the convention to maintain their credibility and in the hope of receiving reciprocal treatment from other states who are parties to the convention. In establishing any regional framework, ASEAN will need to address how best to ensure

¹ Brunei, Laos, Malaysia and the Philippines being the four ASEAN Member States that are not parties to the Convention on Nuclear Safety. See Table titled "Participation by ASEAN Member States in International Treaties Relating to Nuclear Safety, Security, Liability & Environment" prepared by CIL (last updated in June 2019).

² IAEA EIA Guidance refers to the IAEA Nuclear Energy Series publication titled "Managing Environmental Impact Assessment for Construction and Operation in New Nuclear Power Programmes".

³ *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua)* and *Construction of a Road in Costa Rica along the San Juan River (Nicaragua v. Costa Rica)*, 2015 I.C.J. Reports 665 (Separate Opinion of Judge Bhandari).

⁴ At present, the Espoo Convention is not yet open for accession by non-UNECE Member States. However, in time to come when the few remaining UNECE Member States ratify the amendment allowing for accession by non-UNECE Member States, it would be technically possible for ASEAN Member States to become parties to the Espoo Convention.

compliance and whether there is scope for an institution similar to the “Espoo” Implementation Committee.

- 2.7 A suggestion was made to consider adapting the principles in the Espoo Convention specifically for ASEAN’s purposes. ASEAN could adopt its own transboundary agreement on EIAs to govern e.g. nuclear-energy related activities, drawing inspiration from the Espoo Convention. For example, the Protocol on Environmental Impact Assessment in a Transboundary Context to the Tehran Convention⁵ was adapted from the Espoo Convention for the purposes of environmental protection in the Caspian Sea, and this process was supported by the UNECE.
- 3. Transboundary SEAs facilitate cross-border consultation at the plan and programme levels and in the context of the national decision to embark on a nuclear power programme that may have transboundary effects, is recognised as good practice by the IAEA and is required under the UNECE Protocol on SEA.**
- 3.1 Having begun to discuss the EIA process, the participants were then introduced to SEA, where the focus was on the plan and programme levels, meaning that the nuclear power option has been included in the national energy strategy and the focus is on understanding the environmental implications of the different nuclear power programme implementation options. The SEA process is conducted the most cost-effectively when done in parallel with the planning of the programme.
- 3.2 In the context of the IAEA Milestones Approach, the major part of the SEA process should be done during Phase 1 before the decision is taken to embark on a nuclear power programme. Although a SEA goes beyond the individual nuclear power plants, SEA and EIA are linked in the sense that the SEA process at the end of Phase 1 is expected to identify some of the projects that will require an EIA.
- 3.3 While numerous guidelines exist on SEA, the IAEA SEA Guidelines were specifically developed to address nuclear power. These guidelines recommend early stakeholder engagement and for such engagement to be comprehensive, include not just national, regional and local but also international stakeholders and continue throughout the different stages of the SEA process. Engagement methods need to be adapted to different types of audiences. The IAEA SEA Guidelines refer to Article 10 of the Kyiv Protocol regarding the transboundary consultation processes. The Protocol, like the Espoo Convention, provides for an international legal framework that can be a useful model for procedural steps for transboundary SEAs.⁶
- 3.4 Under the Kyiv Protocol, which applies both to domestic SEAs and to transboundary situations, SEAs are mandatory for plans and programmes for nuclear energy i.e. the Protocol applies automatically without the need to go through the screening process.⁷ Pursuant to the Protocol, the process for transboundary consultation should be initiated as early as possible through notification to parties who may be affected by significant transboundary environmental effects or at their request. Consultations must address the likely transboundary effects of implementing the plan or programme and the measures envisaged to prevent, reduce or mitigate adverse effects. Where potentially affected parties decide to enter into consultations, the Protocol requires that detailed arrangements are in place to ensure that the public and the relevant authorities are given the opportunity to forward their opinions on the draft plan or programme and the environmental report within a reasonable time frame.

⁵ Framework Convention for the Protection of the Marine Environment of the Caspian Sea [Tehran Convention].

⁶ IAEA SEA Guidelines refer to the IAEA Nuclear Energy Series publication titled “Strategic Environmental Assessment for Nuclear Power Programmes: Guidelines”.

⁷ Pursuant to the Kyiv Protocol, it is mandatory for plans and programmes in the field of energy that set the framework for future development consent for projects listed in its Annex I, such as nuclear power stations and reactors.

- 3.5 When a state decides to embark on a nuclear power programme, due account must be taken of the results of the SEA and the decision should be shared with the potentially affected states. They should also be provided with a statement showing how environmental considerations have been integrated into the programme, how the comments received as part of the transboundary process have been taken into account and the reasons for adopting it in light of the information and alternatives considered. It was emphasised that SEA and the transboundary consultation that forms part of the process do not necessarily alter national decisions or interfere with state sovereignty, but instead provide an avenue for feedback which helps to avoid or at least minimise future conflicts and concerns at the later EIA stage for related projects. It promotes trust and transparency between states.
- 3.6 The SEA that was done for the Polish Nuclear Power Programme is one of the few examples of SEA from the nuclear sector.⁸ Seven states participated in the transboundary consultations for the SEA where due account of the feedback from their agencies and members of the public was taken. In accordance with the Kyiv Protocol, the relevant decision and the associated statement justifying the decision based on the received feedback was shared with the states. The case study highlighted how the SEA process, through facilitating transboundary consultation, helps to minimise later conflicts and disputes at the project level. It also illustrated that transboundary consultations are likely to be time-consuming, requiring adequate resources. The logistical challenges faced include setting appropriate time frames for feedback from multiple state parties and handling large amounts of comments in different languages. The role of bilateral agreements, as potentially useful mechanisms to address in advance such practical issues, was also discussed where it was highlighted that the parties to the Espoo Convention and the Kyiv Protocol agree that bilateral agreements have proved to be useful in facilitating transboundary procedures.
- 3.7 In general, participants were encouraged to appreciate that SEA is an important mechanism that could not only promote transboundary consultation but also help to avoid costly environmental mistakes downstream. As its scope transcends that of individual projects, its impact can be said to be more far-reaching when compared to an EIA that is directed at a specific project. That said, a lack of awareness of the procedure and its benefits and capacity to implement are some of the challenges still facing some UNECE countries. While the Kyiv Protocol is open to all United Nations Member States that may wish to become parties, including non-UNECE Member States (unlike the Espoo Convention at present), participants raised doubt as to whether a regional approach to SEA is likely to be a high priority for ASEAN (be it through joining the Kyiv Protocol or adopting its common regional approach) for reasons including those discussed above.
- 4. In line with the evolving ASEAN approach towards nuclear energy governance, ASEAN should seek to develop a common approach to transboundary consultation for issues relating to nuclear power development that is reflective of international rules, standards and best practices.**
- 4.1 EIA and SEA are not foreign to ASEAN in general. All ASEAN Member States have requirements for EIA (taking different shapes) and to varying degrees, a few also require SEA. At the sub-regional level, the 1995 Mekong Agreement provides for a prior notification and consultation process in respect of projects using water from the Mekong River Basin. Pursuant to this agreement, the 2003 Procedures for Notification, Prior Consultation and Agreement were developed to support the “sustainable development, management and conservation of the water and related resources of the Mekong River Basin”. However, at the ASEAN level, it was made clear that a region-wide framework on EIA and SEA that could support transboundary consultations within the nuclear sector does not currently exist.

⁸ One of the reasons for this is that most states that opted for nuclear energy did so before SEA was required, whether pursuant to international conventions or national legislation.

- 4.2 Within the nuclear sector in Southeast Asia, there is an evolving ASEAN approach towards nuclear energy governance that should frame any regional efforts to develop a common approach to transboundary consultation. This approach embodies a commitment to follow international rules, standards, and best practices in the areas of nuclear safety and security. Any ASEAN framework(s) to be established pursuant to the agreed ASEAN approach should as far as possible be consistent with the international legal and governance frameworks discussed above.
- 4.3 The evolving ASEAN approach towards nuclear energy governance also embodies a commitment to abide by the fundamental principles of ASEAN engagement which provide strong support for regional cooperation on transboundary consultation. These fundamental principles call on ASEAN Member States to strengthen good neighbourliness and cooperation; contribute to strength, solidarity and closer relationships; support regular consultations to coordinate views and actions; and to do so in a way that upholds international law and adheres to good governance.
- 4.4 It was also pointed out that, pursuant to the Treaty on the Southeast Asia Nuclear Weapon-Free Zone (SEANWFZ), which also addresses the use of nuclear energy for peaceful purposes, ASEAN Member States have made a legally-binding commitment to undertake a nuclear safety assessment conforming to “IAEA standards and guidelines” prior to embarking on a “peaceful nuclear energy programme”. This offers a potentially robust legal framework for nuclear safety which could be interpreted to include EIA and SEA. However, it will require further implementation and does not appear to have been enforced in practice.
- 4.5 Participants were also provided with an overview of the mapping work done as part of the ESI-CIL Nuclear Governance Project, reflecting on the legal and institutional arrangements that govern regional bodies involved in matters related to nuclear energy governance within Southeast Asia (ASEAN nuclear governance framework). In light of the evolving ASEAN approach to nuclear energy governance and what it means in terms of a common ASEAN approach to transboundary consultation, another related issue is the need to identify bodies that can help to facilitate the implementation of such a common approach. The SEANWFZ Plan of Action envisages that the ASEAN Network of Regulatory Bodies on Atomic Energy (ASEANTOM) and the Nuclear Energy Cooperation Sub-Sector Network (NEC-SSN) will contribute to the eventual development of a regional safety regime. As such, these bodies represent possible platforms within which to advance discussions on transboundary consultations with a view to promoting a common ASEAN approach.
- 5. Notwithstanding the potential challenges to regional cooperation on transboundary consultation on issues relating to nuclear power development, it would be in the region’s interest to seriously consider developing a common approach to this issue.**
- 5.1 Potential challenges to ASEAN cooperation on transboundary consultation on nuclear power development were also identified. The problem of ASEAN “sensitivities” and differing cultures, whether objective or perceived, was raised as a potential impediment. The extent to which these “sensitivities” may mask a lack of political will was also discussed. The UNECE experience with the Espoo Convention was highlighted as a success story of differing cultures arriving at an agreed framework and also learning to routinely and effectively apply its transboundary procedures over the years.
- 5.2 Another challenge stems from an apparent ASEAN culture that is disinclined towards public consultation, and the need for governments to have complete and perfect information before any consultation commences. This could hinder the process which promotes environmental governance through early and effective public participation. Participants were urged to break away from the mentality of having to get everything right before initiating consultations because an environmental assessment is an ever-evolving and fluid process where one may never have complete or perfect

information. Further, to be effective and meaningful, consultations should take place early enough when all available options are still open.

- 5.3 Other challenges that were discussed included the lack of communication between agencies at the national as well as regional levels, the lack of consistency between applicable legal regimes, the lack of resources (e.g. expertise, time, and funding) and the lack of baseline data. In the example of the Land Reclamation Case between Singapore and Malaysia, taking a quantitative approach was key to the agreement on the actual impacts and the use of bilateral agreements, not just to resolve particular disputes but also to avoid future disputes, was also emphasised.
- 5.4 The practical exercise provided participants with an opportunity to exchange initial views on what ASEAN could and/or should do to promote transboundary consultation on the issues of the national decision and siting, in light of the current international and ASEAN legal and governance frameworks. Discussions centred around criteria for determining whether the proposed siting of a nuclear power plant is likely to pose a risk of significant transboundary harm; at which “early stage” of the EIA process should potentially affected states be notified and consulted; the kind of information one should expect to be included in the EIA report; and whether public consultation should be restricted to only government agencies or also extended to the public or at least some representation of the public. A variety of preliminary views were exchanged on these issues.

III. SUMMARY AND NEXT STEPS

In summary, it was clear by the close of the workshop that EIA and SEA are mechanisms that can help to facilitate transboundary consultation at project, plan and programme levels within the context of assessing and addressing potential environmental impacts of nuclear power development in Southeast Asia. More than just facilitating such consultation, these mechanisms serve as systematic decision-making frameworks that support sustainable development generally, whether at the project or plan and programme levels. Notwithstanding the potential challenges to regional cooperation, it would be in the region’s interest to seriously consider developing a common approach to this issue. Any ASEAN framework(s) to be established pursuant to such a common approach should be consistent with general international law, the applicable conventions, standards and guidance developed under the auspices of the IAEA and consider carefully the models and mechanisms presented by the Espoo Convention and Kyiv Protocol, including the good practices gathered by their parties. This approach is also in line with the evolving ASEAN approach towards nuclear energy governance, which as discussed, embodies ASEAN’s commitment to following international rules, standards and best practices and promoting regional solidarity.