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 Observations by the Aarhus Convention Compliance Committee on the draft terms of reference for possible guidance on the applicability of the Espoo Convention to the lifetime extension of nuclear power plants[[1]](#footnote-2)

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| *Summary* |
| The following observations on the draft terms of reference are submitted by the Chair of the Aarhus Convention Compliance Committee on the Committee’s behalf to the Co-Chairs of the ad hoc working group for their consideration in advance of the seventh meeting of the Working Group on Environmental Impact Assessment and Strategic Environmental Assessment (Geneva, 28-30 May 2018). The observations made here do not purport to be exhaustive. |
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**Overview of the Committee’s main observations on the draft terms of reference**

**I. Observations on the structure of the future guidance**

1. The criteria listed in paragraphs 5 (a)-(d) and 6 (a)-(d) of the draft terms of reference are the key criteria and should accordingly form the framework of the guidance. While the topics discussed in paragraphs 8-16 may be useful ways to expand upon on each of these criteria, any future guidance should be structured so that it is clear that it is the criterion listed in paragraphs 5 and 6 of the draft terms of reference that must in fact be met.

1. **Observations on the criteria listed in the draft terms of reference**

**“Subject to a decision”**

2. With respect to the criteria listed in paragraph 5 (b) of the draft terms of reference, namely “subject to a decision”, it would be important that any future guidance not take an overly formalistic approach to what constitutes a “decision”. The key point should be whether or not the lifetime of the existing NPP will in fact be extended.

**“In accordance with an applicable national procedure”**

3. Similarly, regarding the criteria listed in paragraph 5 (d) of the draft terms of reference, namely “in accordance with an applicable national procedure”, it would be important that any future guidance not take an overly formalistic approach to what constitutes an “applicable national procedure”. “Applicable national procedure” should thus be understood broadly, for example to include the national legislative procedure, a periodic safety review procedure and so forth. The key point is whether or not the lifetime of the existing NPP will in fact be extended.

1. **Observations on the topics currently addressed in the draft terms of reference**

**Topic 4: Likelihood of lifetime extension to cause significant adverse transboundary impact**

5. The following additional “point of discussion” would be very important for the guidance to address. It is therefore proposed that the following text is inserted in the textbox for topic 4:

* How should “likely” be understood in the context of nuclear-energy related activities, such as a lifetime extension of a NPP, where the chance of a major accident, a beyond design basis accident or a disaster occurring is very low, but the likelihood of a significant adverse transboundary impact of such an accident could be very high?

6. It is suggested to re-word footnote “a” in the textbox for topic 4 as follows:

“Public participation, including in a transboundary context, is required under the United Nations Economic Commission for Europe Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) with respect to:

1. Decisions on whether to permit nuclear power plants (article 6, para. 1 (a) and annex I, para. 1, of the Aarhus Convention),
2. Any change to or extension of activities, where such a change or criteria meets in itself the threshold set in annex I of the Convention (article 6, para. 1 (a) and annex I, para. 22, of the Aarhus Convention); and
3. When a public authority reconsiders or updates the operating conditions for a nuclear power plant (article 6, para. 10 and annex I, para. 1, of the Aarhus Convention).”
4. **Proposals for further topics not currently included in the draft terms of reference**

7. The two topics proposed below are not currently mentioned in the draft terms of reference but would seem important to address in the future guidance:

**The duration of the existing activity**

8. This point appears obvious but in practice, identifying the duration of the existing activity is not necessarily straightforward. Unless it is clearly understood what the authorized duration of the existing activity is, then it is not possible to determine whether the existing activity is being extended or not.

9. The Guidance should thus make clear how the authorized duration of the existing activity may be ascertained, for example:

(a) The duration of the existing operating licence for the NPP, if the licence is time-limited.

(b) If the existing operating licence was not time-limited, the duration of NPP operation upon which the full EIA for the existing NPP operation was based (see also next topic).

(c) If the existing operating licence was not time-limited and no full EIA was carried out prior to authorization of the NPP operation, then the duration of the “design lifetime” or technical specifications of the NPP.

**The time period of NPP operation upon which any previous full EIA was based**

10. Bearing in mind the use of terms in and the objectives of the Espoo Convention, if a full EIA was carried out on the existing NPP activity, then any extension of operation beyond the time period of operation assessed in that earlier EIA should prima facie be considered a “proposed activity” for the purposes of article 1, paragraph (v) of the Convention.

11. In the light of the objectives of the Espoo Convention, the above point should be treated as fundamental and determinative. Accordingly, to “ensure environmentally sound and sustainable development”, and to “enhance international cooperation in assessing environmental impact in a transboundary context” (see preamble of the Espoo Convention), it should be irrelevant whether the underlying licence is for an indefinite duration, or if the extension is approved through legislation or following a periodic safety review, or otherwise. The key point is that, if the duration of the NPP’s operation will be extended beyond the operating period assessed in any previous full EIA, the only way to ensure that the potential impacts of the extended duration of the NPP’s operation will be fully or properly assessed is to prima facie consider any extension of the NPP’s operation a “proposed activity”. The alternative would mean that the potential environmental impacts of the extended duration of the NPP’s operation would never be fully or properly assessed.

12. As the draft terms of reference already notes, this should not exclude the possibility that a very short period of extended operation might potentially be considered a “minor change”.

 Annex

 Observations by the Committee as track changes in the draft terms of reference

The text below is a cut and paste excerpt of Parts IV and V of the Espoo Convention’s draft terms of reference, with some relevant observations by the Committee inserted in track changes.

 **Excerpt of Espoo Convention’s draft terms of reference:**

 IV. Relevant criteria for determining the applicability of the Convention

5. There are several stages before the requirement to notify under article 3 of the Espoo Convention is established. As a first step, the cumulative criteria of a “proposed activity” as defined by article 1, paragraph (v), of the Convention have to be fulfilled. A “proposed activity” must be:

(a) an “activity” or a “major change to an activity”;

(b) “subject to a decision”;

(c) “of a competent authority”;

(d) “in accordance with an applicable national procedure”.

6. When a lifetime extension is regarded as a “proposed activity”, a transboundary procedure in accordance with the Convention will only be required if a second set of cumulative criteria are fulfilled (see article 2, paras. 2 to 5, and article 3, para. 1, of the Convention). According to these criteria, the lifetime extension must be:

(a) “likely to cause”;

(b) “significant”;

(c) “adverse”;

(d) “transboundary impact”.

7. These criteria should only be analysed with regard to their specific relevance in the context of lifetime extensions of nuclear power plants.

 V. Topics to be considered

8. The topics in this section highlight six areas that should be explored further when developing possible guidance for the applicability of the Espoo Convention to decisions on the lifetime extension of nuclear power plants. A short introduction for each topic will explain the reasons for and the aspects of the respective topic that could be important with regard to the criteria listed under section IV above. The introductions will be followed by a list of points of discussion related to the topics.[[2]](#footnote-3)

9. As set out in the mandate for the ad hoc working group and as discussed in the group’s meetings in Luxembourg and in Brussels, the intention is that the discussion on a possible future guidance should be limited by the scope of the Espoo Convention in relation to the lifetime extension of a nuclear power plant.

 Topic 1
Extension of an existing licence or issuance of a new licence by a competent authority in the case of a time-limited licence

10. In several countries time-limited licences are foreseen for the operation of nuclear power plants. If the time limit runs out the operator may ask for an extension of his licence or for the existing licence to be reissued for an extended period of time. Possible future guidance should reflect whether and under what circumstances the continued operation subject to a time extended licence or a new licence will meet the criteria of a proposed activity as defined in article 1, paragraph (v), of the Convention (see para. 5 above).

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| **Points of discussion*** Is the continued operation of a nuclear power plant subject to a time-extended licence a new “activity” or a “major change” to an existing activity according to article 1, paragraph (v), of the Convention?
* Practical relevance of the above distinction:
	+ Classification as a “major change” could perhaps offer more flexibility in a case-by-case examination of lifetime extensions of nuclear power plants (e.g., a short extension might possibly be regarded as a “minor change”).
* How can “major” be defined with regard to the extension of the lifetime of a nuclear power plant?
* Does it make a difference whether the licence providing for lifetime extension modifies the original licence or whether it extends the lifetime of the facility only, leaving the technical or operating conditions untouched?
* The scope of this topic covers cases in which the former time-limited licence has not expired yet. How should cases be handled in which the operator asks for a time-extended licence after the validity period of the original licence has expired? Is the later operation in the latter cases necessarily a new activity which will require a transboundary procedure according to the Espoo Convention if the other criteria (e.g., likelihood to cause significant adverse transboundary impact) are met?
* Is there an agreed technical definition for “lifetime extension” and “long-term operation”a and how could this definition help to clarify the applicability of the Convention in possible guidance?

\_\_\_\_\_\_\_\_\_\_\_\_ a  According to the European Commission’s Joint Research Centre in its presentation at the first meeting of the ad hoc working group, no specific definition for “lifetime extension” could be found. For “long-term operation” the Joint Research Centre referred to an IAEA definition: “operation beyond an established time frame set forth by, for example, licence term, design, standards, licence and/or regulations”. (See, for example, *Plant Life Management Models for Long Term Operation of Nuclear Power Plants*, IAEA Nuclear Energy Series No. NP-T-3.18 (Vienna, International Atomic Energy Agency, 2015), available from https://www-pub.iaea.org/books/iaeabooks/10520/Plant-Life-Management-Models-for-Long-Term-Operation-of-Nuclear-Power-Plants). |
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 Topic 2
Are there particular factors or preconditions, such as “physical works”, for identifying a “proposed activity”?

11. The definition of “proposed activity” in article 1, paragraph (v), of the Convention does not mention particular factors such as “physical works” as a specified precondition for a proposed activity.[[3]](#footnote-4) A possible future guidance on lifetime extensions for nuclear power plants should include consideration of whether factors like “physical works” could be a relevant criterion to identify a “proposed activity” within the scope of the Convention.

12. Attention should also be given to the fact that “physical works” is not a legally defined term. “Physical works” may include different categories of activities only some of which might be relevant with regard to the applicability of the Convention to the lifetime extension of nuclear power plants. Others may not (e.g., because they may have no influence on the operation of a facility). If the inclusion of a requirement regarding “physical works” was found relevant, then the possible guidance should analyse different types of “physical works” and their significance with regard to the application of the Convention.

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| **Points of discussion*** Are there reasons to assume that a “proposed activity” will require physical works or other particular factors, although not mentioned explicitly in article 1, paragraph (v), of the Convention?
* If proposed activities have to be accompanied by physical works, how should physical works relevant in terms of the Convention be distinguished (e.g., by quantitative and qualitative criteria) from others which could be disregarded? In this context, do physical works also include measures for the improvement of nuclear safety (i.e., safety upgrades)? If not, how should measures for safety improvement be distinguished from other works such as a power upgrade?
* Does it make a difference whether physical works will be performed before the operation continues or sometime after the extension?
* Are there any other possible factors or preconditions? In particular, should the key factor be the time period of operation upon which the EIA for the existing activity was based? If so, then if the NPP is proposed to operate for longer than the time period assessed in that EIA, that would prima facie be a “proposed activity” irrespective of whether physical work will be carried out. Similarly, if there was no EIA carried out at the time that the NPP was permitted, then that would also prima facie be a “proposed activity” irrespective of whether physical work will be carried out.
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 Topic 3
Lifetime extension by a specific domestic law

13. The term “competent authority” is defined in article 1, paragraph (ix), of the Convention as an authority responsible for performing the tasks covered by the Convention or entrusted by a Party with decision-making powers. In some countries the lifetime of a nuclear power plant has not been extended by an administrative decision but by a specific domestic law.

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| **Points of discussion*** Is a national parliament a “competent authority” in the meaning of article 1, paragraphs (v) and (ix), of the Convention?
* If a national parliament adopts a specific domestic law extending the lifetime of a certain nuclear power plant, what conditions will have to be met to assume that the decision is taken “in accordance with an applicable national procedure” (article 1, para. (v), of the Convention)? For example, should the national legislative procedure be considered to be “an applicable national procedure”?
* Does it make a difference whether the underlying licence is limited or unlimited?
	+ In some countries, for example, the operating period of a nuclear power plant with an unlimited time licence is reduced by a specific domestic law. Later, this law is amended in order to allow for an extended operating period.
* Does it make a difference whether the law providing for a lifetime extension modifies the underlying licence (i.e., its period of validity) or whether it extends the lifetime of the facility directly leaving the operating licence untouched?
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 Topic 4
Likelihood of lifetime extension to cause significant adverse transboundary impact

14. As noted above (see in particular para. 6), the extension of the lifetime of an existing nuclear power plant would only require a transboundary procedure in accordance with the Espoo Convention if the resultant operation of that nuclear power plant was likely to cause significant adverse transboundary impact. Therefore, possible guidance should consider how to determine if a lifetime extension is likely to have this effect. When exploring the likelihood of significant adverse transboundary impact, attention should also be given to the different types of possible lifetime extensions. In some cases, a continued operation under the same conditions (i.e., with no significant technical changes or updates) will be allowed, while in other cases lifetime extension will only be permitted if accompanied by measures to improve nuclear safety. It should be made clear whether and how these differences could be reflected in the assessment.

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| **Points of discussion*** Can the extension of the lifetime of a nuclear power plant be regarded as a factor that is likely to cause significant adverse transboundary impact (noting the definition of “impact” in article 1, paragraph (vii), of the Convention)?
	+ The extended operation of a nuclear power plant might result, e.g., in
		- Malfunction by ageing components.
		- The risk of an accident.
		- An increase in the time of exposure to extreme natural hazards that could alone or in combination with human failure or malevolent human acts lead to the release of radioactive substances into the environment.
		- Increased generation of both radioactive waste and spent nuclear fuel.
	+ Should the guidance also consider how to address changes in the environment and/or changes in environmental standards when assessing the possible significant adverse transboundary impact of the lifetime extension of an existing nuclear power plant?
* How should “likely” be understood in the context of nuclear-energy related activities, such as a lifetime extension of a nuclear power plant, where the chance of a major accident, a beyond design basis accident or a disaster occurring is very low, but the likelihood of a significant adverse transboundary impact of such an accident could be very high?
* Could a specific process (e.g., “screening”) be recommended in order to assess whether lifetime extension will be likely to cause significant adverse transboundary impact? What kind of assessment will be required for this “screening”?
* Does it make a difference whether lifetime extension will be accompanied by measures to improve nuclear safety or measures to reduce the environmental impact? Will measures to improve safety have to be assessed with regard to their possible impact on the environment (beyond radiological aspects)?
* Does the duration of the lifetime extension make a difference?
	+ For instance, the likelihood of a significant adverse transboundary impact could perhaps be lower if the nuclear power plant will only be allowed to operate for an additional short period of time.
* Does it make a difference whether the nuclear power plant in question was constructed before the Espoo Convention existed/was in force for a given Party and never subject to a transboundary environmental impact assessment procedure (including public participation)a according to the Convention?
* If the Party of origin concludes that no significant adverse transboundary impact is likely to occur, how can that conclusion be demonstrated without conducting a transboundary environmental impact assessment? Could that be demonstrated by the specific process (“screening”) mentioned above?

­­­\_\_\_\_\_\_\_\_\_\_\_\_ a Public participation, including in the transboundary context, is required under the United Nations Economic Commission for Europe Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) with respect to:* Decisions on whether to permit nuclear power plants (article 6, para. 1 (a) and annex I, para. 1, of the Aarhus Convention),
* Any change to or extension of activities, where such a change or criteria meets in itself the threshold set in annex I of the Convention (article 6, para. 1 (a) and annex I, para. 22, of the Aarhus Convention); and
* When a public authority reconsiders or updates the operating conditions for a nuclear power plant (article 6, para. 10 and annex I, para. 1, of the Aarhus Convention).
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 Topic 5
Periodic safety review[[4]](#footnote-5)

15. According to the respective national legislation there are different ways of proceeding once a periodic safety review of a nuclear power plant has been carried out. In some countries the operator needs a permission from the competent authority to continue the operation of the installation following its periodic safety review. Depending on the findings of the periodic safety review, the permission may include an obligation for the operator to carry out nuclear safety improvements of the installation before continuing its operation or in parallel to its continued operation. A periodic safety review could also be used in support of the decision-making process for a licence extension or renewal (if required by the national legal framework). Possible guidance should also consider these cases.

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| **Points of discussion*** Does a permission granted by the competent authority to continue operation after a periodic safety review has been carried out fulfil the characteristics of a “decision” as set out in article 1, paragraph (v), of the Convention?
* Could the term “decision” in article 1, paragraph (v), of the Convention also include decisions to allow or not allow a continued operation of an installation following its periodic safety review?
* Even if the national law does not foresee a formal permission to continue the operation of an installation after a periodic safety review has been carried out, the competent authority will have to examine the findings of the periodic safety review and consider if continued operation will be acceptable. Could the conclusion of this assessment be regarded a “decision” according to article 1, paragraph (v), of the Convention?
	+ See article 2, paragraph 3, of the Convention: “an environmental impact assessment is undertaken prior to a decision to authorize or undertake a proposed activity listed in Appendix I”.
* Do the same principles apply for a permission to continue operation following an outage?
* How can a distinction be drawn between usual maintenance works and works related to a periodic safety review?
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 Topic 6
Operation beyond the designed (minimum) lifetime

16. At the time of their construction, many nuclear power plants were typically designed for a (minimum) lifetime of 30 or 40 years. In some countries, according to their national law, a review will be carried out when the operation of a nuclear power plant comes to the end of its designed (minimum) lifetime. To continue the operation following this date, a permission by the competent authority may be required, for example following a periodic safety review. Depending on the findings of the review, the permission may include an obligation for the operator to carry out nuclear safety improvements of the installation.

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| **Points of discussion*** The situation described above, i.e., the review of a nuclear power plant in order to explore whether continued operation beyond its designed (minimum) lifetime will be possible, could be similar to the cases discussed under topic 5 (periodic safety review). Are there any differences that would justify a different approach?
* Would it be helpful for possible guidance to include a definition/a common understanding of the term “designed lifetime”?a

\_\_\_\_\_\_\_\_\_\_\_\_ a See the different existing definitions from various organizations, such as IAEA (“Design life”: “The period of time during which a facility or component is expected to perform according to the technical specifications to which it was produced”, *IAEA Safety Glossary: Terminology Used in Nuclear Safety and Radiation Protection*, 2007 Edition (Vienna, International Atomic Energy Agency, 2007), available from <http://www-ns.iaea.org/standards/safety-glossary.asp>). |
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1. See ECE/MP.EIA/WG.2/2018/4 prepared by the ad hoc working group for discussion at the seventh meeting of the Working Group on Environmental Impact Assessment and Strategic Environmental Assessment (Geneva, 28-30 May 2018). [↑](#footnote-ref-2)
2. Note: the order and numbering of the topics and the points of discussion does not indicate any form of hierarchy between them. [↑](#footnote-ref-3)
3. The definition of “proposed activity” in article 1, paragraph (v), of the Espoo Convention is different from the definition of “project” in Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (EIA Directive). With regard to the definition of “proposed activity” of the Espoo Convention, the Implementation Committee took the view that “the extension of the lifetime of a nuclear power plant, after expiration of the original licence, even in absence of any works, is to be considered as a major change to an activity and consequently subject to the provisions of the Convention” (see para. 2 above). However, according to article 1, paragraph 2 (a), of the EIA Directive “project” means: “the execution of constructive works or other installations or schemes; [and] other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources”. The European Court of Justice in its rulings came to the conclusion that the extension of a licence “in the absence of any works or interventions involving alterations to the physical aspect of the site” is not a project under the EIA Directive (see Case C-275/09, *Brussels Hoofdstedelijk Gewest v. Vlaamse Gewest*, E.C.R. [2011] I-1753, para. 30). [↑](#footnote-ref-4)
4. A periodic safety review after a certain period of operation of a nuclear power plant is for instance mandatory in the European Union under the Euratom Nuclear Safety Directive (Directive 2009/71/EURATOM establishing a Community framework for the nuclear safety of nuclear installations and its amendment, Directive 2014/87/Euratom). A periodic safety review is a comprehensive safety review of all the important aspects of safety carried out at regular intervals, typically every 10 years. (See also *Periodic Safety Review for Nuclear Power Plants: Specific Safety Guide*, IAEA Safety Standards Series No. SSG-25 (Vienna, International Atomic Energy Agency, 2013), available from <https://www.iaea.org/publications/8911/periodic-safety-review-for-nuclear-power-plants>.) The operating licence exists independently of the periodic safety review. [↑](#footnote-ref-5)