



# Economic and Social Council

Distr.: General  
16 November 2018

Original: English

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## Economic Commission for Europe

### Meeting of the Parties to the Convention on Environmental Impact Assessment in a Transboundary Context

#### Intermediary session

Geneva, 5–7 February 2019

Items 3 (a) and 8 of the provisional agenda

#### Outstanding issues: draft decisions

#### Adoption of decisions by the Meeting of the Parties to the Convention

### **Progress report on the development of guidance on the application of the Convention to the lifetime extension of nuclear power plants**

#### **Report by the ad hoc working group**

#### *Summary*

At its seventh session, the Meeting of the Parties to the Convention on Environmental Impact Assessment in a Transboundary Context decided to establish an ad hoc working group to draft terms of reference for guidance on the application of the Convention to the extension of the lifetime of nuclear power plants (ECE/MP.EIA/23-ECE/MP.EIA/SEA/7, para. 12). The Working Group on Environmental Impact Assessment and Strategic Environmental Assessment was mandated to oversee the work.

At its seventh meeting (28–30 May 2017), the Working Group extended the mandate of the ad hoc group and invited it to work on the draft guidance based on the terms of reference and to submit a written progress report to the Meeting of the Parties to the Convention at its intermediary session.

The present document contains the report requested from the ad hoc working group. The Meeting of the Parties is expected to comment the progress report and to provide advice for the finalization of the guidance, with a view to adopting the guidance at its eighth session in 2020.

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## I. Introduction

1. The present document provides an update on the work of the ad hoc group on the applicability of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) to the lifetime extension of nuclear power plants. It outlines the steps that have been taken since the establishment of the group at the seventh session of the Meeting of the Parties to the Convention (Minsk, 13–16 June 2017) and presents the group's proposal for the next steps leading up to the eighth session of the Meeting of the Parties in December 2020. While the report provides a summary of some of the early findings of the group, it is not intended to provide preliminary guidance to the Implementation Committee for the purposes of dealing with those cases currently before it.

2. The group requests that the Parties:

- (a) Note the progress outlined in the present report;
- (b) Give their approval for the next steps towards the preparation of guidance, as outlined in the document.

## II. Background

3. At its sixth session (Geneva, 2–5 June 2014), the Meeting of the Parties to the Convention discussed whether the extension of the lifetime of a nuclear power plant was within the scope of the Espoo Convention. The Implementation Committee, in its recommendations to the Meeting of the Parties concerning compliance with the Convention, took the general view that the extension of the lifetime of a nuclear power plant after expiration of the original licence, even in absence of any works, was to be considered as a major change to an activity and consequently subject to the provisions of the Convention.<sup>1</sup> However, considering the various positions of the Parties on the topic, the compliance decision (VI/2) adopted by the Meeting of the Parties at that session did not include a general statement on the extension of the lifetime of a nuclear power plant, limiting itself to a finding of non-compliance in relation to the Rivne nuclear power plant.<sup>2</sup>

4. There is, therefore, still considerable legal uncertainty as to whether and in what circumstances lifetime extensions of nuclear power plants trigger the application of the Espoo Convention and hence require a transboundary environmental impact assessment. There are currently several cases on this topic pending before the Implementation Committee, with a significant number of further cases envisaged in the coming years.

5. Consequently, at its seventh session, the Meeting of the Parties agreed on the establishment of an ad hoc group to draft terms of reference for possible guidance on addressing the applicability of the Espoo Convention with regard to decisions on the lifetime extension of nuclear power plants. The Parties agreed that the ad hoc group should meet at least twice prior to the seventh meeting of the Working Group on Environmental Impact Assessment and Strategic Environmental Assessment (Geneva, 28–30 May 2018) and organize a dedicated workshop to discuss and recommend the adoption of the terms of reference at that meeting.

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<sup>1</sup> See ECE/MP.EIA/2014/L.3, draft decision VI/2, para. 5 (f); see also the Committee's findings and recommendations further to a Committee initiative concerning Ukraine with regard to the Rivne nuclear power plant (ECE/MP.EIA/IC/2014/2, annex, para. 65).

<sup>2</sup> ECE/MP.EIA/20/Add.1-ECE/MP.EIA/SEA/4/Add.1, decision VI/2, paras. 68–71.

### III. Progress to date

6. In line with decision VII/3-III/3 on the adoption of the workplan, the Co-Chairs of the ad hoc group held a workshop in the framework of the seventh meeting of the Working Group to discuss the terms of reference and seek views from a range of governmental and non-governmental perspectives.<sup>3</sup> Following the workshop, the Co-Chairs reviewed the terms of reference to take into account, among other things, comments from the Compliance Committee under the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention). The revised terms of reference were subsequently adopted by the Working Group (ECE/MP.EIA/WG.2/2018/2, annex IV).

7. The Working Group extended the mandate of the ad hoc group under the continued leadership of Germany and the United Kingdom of Great Britain and Northern Ireland and invited it to work on the draft guidance, based on the adopted terms of reference and taking into account the workshop's outcomes. The Working Group also asked the ad hoc group to submit a written progress report to the Meeting of the Parties to the Convention at its intermediary session in 2019 as an official document so that the Meeting of the Parties could decide how to proceed, with a view to adopting the guidance at its eighth session in 2020.

### IV. Membership

8. The following States Parties to the Convention are members of the ad hoc group: Armenia, Austria, Belarus, Belgium, Bulgaria, Canada, Czechia, Finland, France, Germany, Greece, Italy, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, United Kingdom and Ukraine.

9. Meetings are also attended by members of the United Nations Economic Commission for Europe (ECE) secretariat to the Espoo Convention, the Chair of the Working Group on Environmental Impact Assessment and Strategic Environmental Assessment (Slovenia), the Chair of the Implementation Committee (Lithuania) and representatives of the European Commission Directorate-Generals for the Environment and for Energy.

10. Germany and the United Kingdom co-chair the ad hoc group.

### V. The work of the ad hoc group

11. The group has met on four occasions: in Luxembourg (27–28 November 2017); Brussels (20–21 February 2018); Berlin (20–21 June 2018); and London (2–3 October 2018). Following the adoption of the ad hoc group's terms of reference by the Working Group at its seventh meeting, work on the guidance itself has begun. Summaries of the four meetings can be found on the ECE website.<sup>4</sup>

12. During the third quarter of 2018, members of the group provided responses to the Co-Chairs on a number of questions circulated following the meeting in Berlin. These responses formed the basis of discussion at the fourth meeting of the group in October 2018 in London.

<sup>3</sup> The presentations given at the workshop can be found under "Presentations and statements" at [www.unece.org/index.php?id=47337](http://www.unece.org/index.php?id=47337).

<sup>4</sup> See Luxembourg: <https://www.unece.org/index.php?id=47703>; Brussels: <https://www.unece.org/index.php?id=48202>; Berlin: <https://www.unece.org/index.php?id=48974>; London: <https://www.unece.org/index.php?id=50054>.

13. Following the workshop held at the seventh meeting of the Working Group, at which a range of non-governmental perspectives were presented, the Co-Chairs met with representatives of non-governmental organizations (NGO) in Brussels on 8 August 2018 to update and consult with them on the group's work. The Co-Chairs gave an overview of the matters discussed at the third meeting of the group in Berlin and of the process for preparing the progress report for the intermediary session of the Meeting of the Parties. The NGO representatives regretted that, in their opinion, only a small part of their input during the workshop in Geneva had been included in the final terms of reference. The NGO representatives restated their view that in principle any lifetime extension decisions would be a proposed activity and that excluding lifetime extension from an environmental impact assessment would only be possible in exceptional circumstances. NGOs were especially concerned that putting the focus on major changes would lead to multiple minor changes being carried out which could have the same environmental impact as a major change. The Co-Chairs agreed to reflect on the views expressed by NGOs with the rest of the ad hoc group. Other points of discussion raised by the NGOs were lifetime extensions by a specific domestic law and the relationship between environmental impact assessments and the periodic safety reviews.

## **VI. Matters discussed**

14. In discussions to date, the ad hoc group has sought to establish common ground on key questions that cut across several topics included in the terms of reference. It has been necessary to seek agreement on these points before the group could turn its attention to the more detailed questions listed in the terms of reference.

### **A. Lifetime extension: A change to an activity or a new activity?**

15. At its third meeting, the ad hoc group considered whether a lifetime extension would normally amount to a major change to an existing activity or to a new activity within the definition of "proposed activity" in article 1 of the Convention. The group concluded that lifetime extension would normally amount to a change to an existing activity rather than to a new activity, but that there could be exceptions in which lifetime extensions could be regarded as a new activity, for instance where the licence for the activity had expired such that the activity had to be relicensed to continue operation. A lifetime extension would consequently be within the terms of "proposed activity" in article 1, subparagraph (v), of the Espoo Convention, if the change amounted to a major change to the existing activity – accepting that not all changes would be major changes.

### **B. When is a lifetime extension a major change?**

16. Subsequently, at the group's fourth meeting, the question of what would amount to a major change was considered. The group agreed to approach the question through the consideration of "factors" rather than specific criteria.

17. There was agreement that these factors would need to be considered on a case-by-case basis, which might require a screening process, although whether such a process was used could remain at the discretion of individual States. Having determined whether any factors were present, there would then be a need to consider whether the change was major or not, taking into account the extent of the proposed change and its environmental impact.

18. The group agreed that works would be one factor and changes in the operation of the nuclear power plant that resulted in a changed intervention in the environment – for instance,

by an increased use of natural resources such as cooling water or output of emissions – would be another. For a third group of factors, such as increased technical and environmental risks deriving from ageing components, changes in the surrounding environment, the lack of a transboundary environmental impact assessment or new scientific findings, the group decided to continue its discussion at a future meeting. The factor of time was also explored, for example whether short-term extensions with little impact could potentially be excluded on that basis, but it was agreed here, too, that further discussion was needed on that point. Furthermore, it was agreed that factors to be applied might also depend on national provisions.

19. The group noted that while changes to a nuclear power plant might make an environmental impact assessment desirable, that might not amount to a legal requirement to conduct an environmental impact assessment at all or to conduct a transboundary environmental impact assessment under the Espoo Convention.

20. The group also discussed concerns expressed by the NGO representatives in their meeting with the Co-Chairs in Brussels in relation to multiple minor changes to a nuclear activity (see para 13 above). The group considered how the cumulative impact of such changes might be assessed as part of a process of determining whether a major change had taken place. The group felt that cumulative impact would also be a factor in assessing major change that would need to be considered on a case-by-case basis. In that respect, the possible use of a procedure seeking to screen the environmental effects of a change was mentioned.

### **C. Possible lifetime extension scenarios**

21. The ad hoc group considered a range of possible lifetime extension scenarios that currently or might in future occur in States Parties to the Convention. The group discussed whether or not it would be justified, for the purposes of the guidance, to define those scenarios as a lifetime extension. The group also considered whether or not it would be justified to cover those scenarios in the guidance, even if they were not, or not clearly, to be seen as a lifetime extension. An outline of the scenarios and the conclusions of the discussion is provided in annex I to the present report.

22. The group noted that even if a scenario was not, or not clearly, considered to be a lifetime extension, it might still be a major change to the activity according to the Espoo Convention if the cumulative criteria of article 1, subparagraph (v), of the Convention were met. Similarly, the group agreed that a particular scenario being described as a lifetime extension did not necessarily mean that the Convention applied. Furthermore, the group noted that while changes to a nuclear power plant might make an environmental impact assessment desirable, that might not amount to a legal requirement to conduct an environmental impact assessment at all or to conduct a transboundary environmental impact assessment under the Espoo Convention.

23. The ad hoc group considers that there may be wider effects of any conclusions drawn with regard to the lifetime extension of nuclear power plants on other activities covered by the Convention. However, it should be noted that the strict legal effect of any such conclusions may be limited by the very specific terms of reference of the group and by any decision of the Meeting of the Parties adopting eventual guidance.

## **VII. Next steps**

24. The ad hoc group proposes the following next steps for its work.

25. Having spent time considering what scenarios might be classed as a lifetime extension or be justified to be covered by the guidance, and what factors might indicate that a major change has taken place, at its next meeting, the group is expected to focus its discussion on what is a decision, including a decision on lifetime extension by a specific domestic law. A paper that was held over from the group's fourth meeting on the role of periodic safety reviews is also due to be re-tabled for discussion. The matter of whether a lifetime extension is likely to cause a significant adverse transboundary impact is a difficult topic, which the Co-Chairs intend to address at one of the following meetings.

26. It will be necessary, as the discussion progresses, to conduct a line-by-line examination of the terms of reference to ensure that all matters and questions raised in that document have been discussed by the group and addressed in the guidance.

27. The group does not anticipate that any guidance will provide definitive answers for the Implementation Committee or others on existing or future cases. It is likely that the guidance will recommend a case-by-case approach through the consideration of general principles and factors, rather than any specific criteria.

28. At present, the group considers that it will need to meet six more times in order to finalize draft guidance for submission to the Meeting of the Parties at its eighth session, preliminary scheduled to be held in December 2020. The following schedule is proposed for the group's further meetings:

- (a) Fifth meeting: Geneva, 25 and 26 March 2019;
- (b) Sixth meeting: June 2019;
- (c) Seventh meeting: October 2019;
- (d) Eighth meeting: December 2019;
- (e) Ninth meeting: March 2020;
- (f) Final meeting: June 2020;
- (g) Submission of draft guidance to the Meeting of the Parties: September 2020.

This schedule is flexible and can be changed should more or fewer meetings be required.

## Annex I

### Possible lifetime extension scenarios

#### Scenario 1

1. After a certain number of years of operation of a nuclear power plant the licence expires and is renewed.

#### *Considerations*

2. Considerations include:

- (a) Only a few countries have such a time-limited licence;
- (b) If the operational lifetime is limited by a defined licence term, then a new licence or extension to the existing one could be called a lifetime extension;
- (c) If a technical or design lifetime approach is taken to the lifetime of a nuclear power plant, then this could amount to a lifetime extension only if close to the end of that lifetime;
- (d) Even if this scenario is not or not clearly seen as a lifetime extension, it may still be a major change to the activity (if renewal is granted before expiry of the licence) or a new activity (if the licence expires before renewal is sought or granted) according to the Espoo Convention if the cumulative criteria of article 1, subparagraph (v), of the Convention are met.

#### *Conclusions*

3. This scenario may be defined as a lifetime extension, depending upon the national procedure of the State in question. It should therefore be covered in the guidance.

#### Scenario 2

4. A periodic safety review is carried out at a nuclear power plant, at which time a competent authority decides whether or not any changes are required in order to allow continued operation of the facility.

#### *Considerations:*

5. Considerations include:

- (a) Unlike scenario 1, there is no time limitation in the licence;
- (b) Periodic safety reviews are primarily focused on the continued safe operation of a nuclear power plant;
- (c) If a technical or design lifetime approach is taken, then a periodic safety review occurring early in design life may not actually extend the operation of the nuclear power plant beyond that technical or design life (and is therefore not a lifetime extension);
- (d) If the periodic safety review reveals deficiencies that require substantial works or changes in operation in order for the continued safe operation of the nuclear power plant, then could the permission to continue operation on the basis of those works (or maybe the authorization of the required works) be considered a lifetime extension?;

(e) Similar to scenario 1, this scenario might still represent a major change according to the Espoo Convention, if works are required in order to allow the continued operation of the nuclear power plant.

*Conclusions*

6. In most cases this is likely not to be a lifetime extension, although it will depend on the exact scenario. It should be covered in the guidance, including a comment on the circumstances in which it should not be considered a lifetime extension but could still amount to a major change.

**Scenario 3**

7. The design lifetime of a nuclear power plant has been reached but the plant is to continue running.

*Considerations*

8. Considerations include:

(a) Similar to scenario 2, there is no defined licence term setting the lifetime of the nuclear power plant;

(b) According to the legal requirements in some countries, an authorization of the competent authority may be required that effectively allows the nuclear power plant to continue to operate beyond its technical or design lifetime. This authorization may follow a periodic safety review late in the design life (or after) or be a separate permit related to the continued operation of the plant;

(c) If a technical or design lifetime approach is taken, then decisions taken clearly before the end of that technical or design lifetime might not amount to extensions of the operation of the plant beyond that lifetime;

(d) Decisions taken with a view to allowing the continued operation of the nuclear power plant after the end of its technical or design lifetime might represent a major change according to the Espoo Convention.

*Conclusions*

9. This is likely to be a lifetime extension, but such a conclusion would need to be considered on a factual, case-by-case basis. Guidance should give particular consideration to the use of the phrase “design lifetime”.

**Scenario 4**

10. The time period on which an environmental impact assessment was based has expired but the operation of the nuclear power plant is to continue.

*Considerations*

11. Considerations include:

(a) This particular scenario has been raised by the Aarhus Convention’s Compliance Committee and NGOs. It was also added to the ad hoc group’s terms of reference following the workshop held in Geneva in May 2018;

(b) The key question here is whether the original environmental impact assessment (where one exists) limits the activity of the nuclear power plant and, if so, whether this needs to be updated when it expires;



(c) This scenario is similar to scenarios 1 and 3. Where an environmental impact assessment has a clear life and the consent or licence given for the nuclear power plant (even if not formally time-limited) is based on that assessment, then a decision taken after the environmental impact assessment expires, or a decision which allows a nuclear power plant to exceed the environmental impact assessment's life, could amount to a lifetime extension;

(d) Where there is no lifetime for the environmental impact assessment then changes or decisions relating to the nuclear power plant might not be a lifetime extension for the purposes of our guidance but, as in scenarios 1 and 2, might still represent a major change or a new activity according to the Espoo Convention;

(e) If a purely technical or design lifetime approach is taken, then the expiry of the environmental impact assessment may well precede the end of the design lifetime of the nuclear power plant.

#### *Conclusions*

12. This may be a lifetime extension if there is a national obligation to carry out a new environmental impact assessment in order to continue the operation of the nuclear power plant. It should be covered in the guidance as it is specifically mentioned in the group's terms of reference and will be an increasingly common scenario for new and future nuclear power plants.

13. There is potentially a separate issue around good practice relating to renewing environmental impact assessments but this is probably outside the scope of the group's mandate.

## Annex II

### Summary of information from the members of the ad hoc group and further considerations

#### Background

1. Four questions were drawn up during the third meeting of ad hoc working group on the applicability of the Espoo Convention to lifetime extensions of nuclear power plants to gather information from the members of the group. The following 18 members replied: Austria, Belgium, Bulgaria, Canada, Czechia, European Commission, Finland, France, Germany, Lithuania, Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Spain and United Kingdom. Not all respondents addressed every question. The main interest was on question two, with all the respondents listing factors that could potentially indicate a major change.
2. The text in the present annex summarizes the information received. The Co-Chairs of the ad hoc group presented the summary (as PowerPoint slides) for consideration of the group at its fourth meeting and subsequently revised the summary based on the comments received.
3. Some of the questions referred to specific topics in the terms of reference for guidance on the applicability of the Convention to the lifetime extension of nuclear power plants.

#### I. Summary of the answers to question one

##### Question 1

*Please provide a description of your national procedures for the decision-making processes for licensing and/or extending the life of a nuclear power plant. You will wish to consider the terms of reference, including their topic 6 (“Operation beyond the designed (minimum) lifetime”).*

4. Fourteen members replied to question one.
5. The responses received reflect a broad variety of different approaches and national procedures for licensing and/or extending the life of nuclear power plants.
6. In 10 countries, licences for the operation of a nuclear power plant are unlimited in time. However, substantial modifications of the nuclear power plant may require a licence or authorization. This group of countries include two countries in which special safety reviews are required with regard to the expiry of the design lifetime.
7. In four responding countries, operating licences are limited in time, but the approved time frame is different from country to country. In one country, operating licences have been issued for two to five years only, while in other countries they are issued for 10 or 20 years. Only in one country, a so-called “Plant Life Extension Licence” is required when the design lifetime expires.

## II. Summary of the answers to question two

### Question 2

*Please provide a list of criteria (including specific examples where possible) which your country would consider as an indication that a lifetime extension case should be classed as a “major change” as regards the application of the Espoo Convention to the lifetime extension of nuclear power plants. You will wish to consider topic 2 of the terms of reference (“Are there particular factors or preconditions, such as “physical works”, for identifying a “proposed activity”).*

8. Eighteen members replied to question two.
9. The responses received cover a wide range of potential criteria for classifying a lifetime extension as a major change. These criteria can be grouped into three categories:
  - (a) All of the respondents referred to physical works and gave various examples for substantial changes, such as power upgrades, safety updates, change of technology and replacement of outdated components. It was also emphasized that these changes may be triggered by a safety review;
  - (b) Some respondents also referred to interventions in the environment, such as an increased use of natural resources (e.g., cooling water) or an increased output of emissions;
  - (c) A few responses referred to other factors, such as increased technical and environmental risks deriving from ageing components (especially when operating beyond an established time frame), changes in the surrounding environment, lack of an environmental impact assessment, or new scientific findings. It was also mentioned that short-term extensions with little impact could be excluded from being a major change.

## III. Summary of the answers to question three

### Question 3

*Please provide a description of the administrative procedures in your country (such as periodic safety reviews or other authorizations) related to the operating licence and the design minimum lifetime of the nuclear power plant that take place within the authorized operating period of a nuclear power plant.*

10. Fourteen members replied to the question on their national administrative procedures.
11. Systematic mandatory periodic safety review every 10 years or less is a common tool to ensure nuclear safety of a nuclear power plant.
12. Several answers also highlighted continual safety assessments to be performed on an everyday basis and to be pursued by the operators, along with relevant European Union and/or International Atomic Energy Agency legislation.
13. In two countries, a special safety review is carried out prior to the expiry of the originally foreseen (design) lifetime. Substantial modifications of the installation following

this review must be authorized by the competent authority or – only in one country – a “Plant Life Extension Licence” will be required.

#### IV. Summary of the answers to question four

**Question 4 (for countries with unlimited licences)**

*Please provide further information on whether the unlimited licences are treated nationally as time-limited and how (e.g., the Netherlands example). You will wish to consider topic 1 of the terms of reference (“Extension of an existing licence or issuance of a new licence by a competent authority in the case of a time-limited licence”).*

14. Fourteen members commented, with six members answering that the question was not relevant for them.
  15. Most of the responses received from countries with unlimited licences highlighted that those licences were not treated as time-limited. However, periodic safety reviews and other safety controls would be carried out.
  16. In one country an unlimited licence for a nuclear power plant had to be amended after 40 years of operation (end of design lifetime).
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