Information for the attention of Implementation Committee, Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991)

To be sent through the Secretary to the Convention:
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Date sent to the Secretary

Sent by (“the source”):

<table>
<thead>
<tr>
<th>Name</th>
<th>1.) The Federal State of North Rhine Westphalia represented by the Minister for Climate Protection, Environment, Agriculture, Nature and Consumer protection, Schwannstrasse 3, 40476 Düsseldorf, Germany</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2.) The Federal State of Rhineland-Palatinate, represented by the Minister for Economy, Climate Protection, Energy and State Planning, Stiftsstrasse 9, 55116 Mainz, Germany ;</td>
</tr>
<tr>
<td></td>
<td>1) and 2) jointly represented by Becker Büttner Held Law firm, Dr. Dörte Fouquet, lawyer and partner, Avenue Marnix 28, 1000 Brussels, Belgium</td>
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<td>Organization</td>
<td>German Federal States of North Rhine-Westfalia and Rhineland Palatinate</td>
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<tr>
<td>Website</td>
<td><a href="https://mwkel.rlp.de/de/startseite/">https://mwkel.rlp.de/de/startseite/</a>; <a href="https://www.umwelt.nrw.de/;http://www.beckerbuettnerheld.de/de/experten/detail/info/doerte_fouquet/">https://www.umwelt.nrw.de/;http://www.beckerbuettnerheld.de/de/experten/detail/info/doerte_fouquet/</a>;</td>
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Concerning:

<table>
<thead>
<tr>
<th>Party or Parties (States) of origin, under whose jurisdiction a proposed activity is envisaged to take place</th>
<th>Belgium</th>
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<tbody>
<tr>
<td>Affected Party or Parties (States), likely to be affected by the transboundary impact of a proposed activity</td>
<td>Germany</td>
</tr>
<tr>
<td>Activity (project), identified in the list of activities in Appendix I to the Convention</td>
<td>Nuclear Power Stations (NPP)</td>
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<tr>
<td>Likely significant adverse trans-boundary impact of the activity (project)</td>
<td>Risk of radioactive release in large quantity e.g. under INES 5 to 7 scale considerations for DOEL 1 and 2 and Tihange 1 NPP in Belgium after prolongation of lifetime to 50 years; risk for hazardous, non normal plant conditions; airborne, wet or dry deposition of radioactive substances on German territory e.g. on the territory of the two German Federal States North Rhine-Westphalia and Rhineland-Palatinate reaching contamination levels which would trigger immediate protection measures imposed under German radiation protection rules and guidelines</td>
</tr>
<tr>
<td>Provisions of the Convention (Articles) compliance with which is being contested</td>
<td>Article 1, 2, 3, 4, 5, 6 and Article 7 ESPOO;</td>
</tr>
<tr>
<td>Description of issue – please attach supporting information</td>
<td>The recent prolongations of lifetime of the above Belgian NPPS Tihange 1, Doel 1 and 2 were decided without Environmental Impact Assessment and without transboundary Environmental Impact Assessment; moreover a governmental plan for energy until 2030 was not submitted to a Strategic Environmental Impact assessment and in all cases no transboundary assessment procedure was organised by Belgium; detailed information in Annex I to this form</td>
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**For use by secretariat:**

<table>
<thead>
<tr>
<th>Reference number</th>
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<td>Date forwarded to Party or Parties</td>
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<td>Remarks by secretariat</td>
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<tr>
<td>Date first discussed by the Committee (possibly including preliminary determination of admissibility)</td>
<td></td>
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<tr>
<td>Additional information requested of source</td>
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</tbody>
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**For use by the Committee:**

- The source of the information is known and not anonymous
- The information relates to an activity listed in Appendix I to the Convention likely to have a significant adverse transboundary impact
- The information is the basis for a profound suspicion of non-compliance
- The information relates to the implementation of Convention provisions
- Committee time and resources are available
ANNEX I

COMPLAINT

To the Implementation Committee ESPOO-Convention

Concerning the non-issuing of the procedure for an Environmental Impact Assessment in a Transboundary Context

Introduced against the Kingdom of Belgium as signatory party to the ESPOO Convention and concerning the extension of the lifetime for the Belgian Nuclear reactors Doel 1 and Doel 2 and Tihange 1

on behalf of

1.) The Federal State of North Rhine Westphalia represented by the Minister for Climate Protection, Environment, Agriculture, Nature and Consumer protection, Schwannstrasse 3, 40476 Düsseldorf, Germany
2.) The Federal State of Rhineland-Palatinate, represented by the Minister for Economy, Climate Protection, Energy and State Planning, Stiftsstrasse 9, 55116 Mainz, Germany

jointly represented by Becker Büttner Held Law firm, Dr. Dörte Fouquet, lawyer and partner, Avenue Marnix 28, 1000 Brussels, Belgium
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Part 1  Introduction

On the Belgium territory seven nuclear power plants (NPP) are operated in two locations, Doel in Flanders and Tihange in Wallonia:

Doel Nuclear Power Stations along the Scheldt River, near the port of Antwerp

Tihange Nuclear Power Stations along the Meuse River.

Since 2003 the Kingdom of Belgium has decided to phase out of Nuclear Power in a step-by-step approach: on 31 January 2003, the Belgian Senate approved the respective Federal Act and since then the construction of new nuclear power plants is forbidden in Belgium and the operating lives of existing reactors are as a rule limited to 40 years.

With a modification to the Belgian phase-out law in 2013 the Belgian government decided to prolong the lifetime of the reactor Tihange 1 by 10 years to an overall lifetime of 50 years and authorised to run this reactor until 2025, with the reasoning of security of supply. In a further amendment by a new Law from June 2015 and again with reasoning of security of supply the Belgian government decided to prolong the lifetime for two other Nuclear Power plants (NPP), Doel 1 and Doel 2 for 10 years until 2025, again amounting to a lifetime of 50 years for each of these NPPs. For none of these decisions for prolongation via legal amendments an Environmental Impact Assessment (EIA) or an EIA in a transboundary context were ever organised by the Belgian State.

All three reactors operate in vicinity to the German and Dutch borders. The plaintiffs represent the German regions closest to the three reactors.

The complaint addresses to the Implementation Committee under ESPOO the failure of Belgium to follow Art. 3 cons. ESPOO in view to its obligations to its neighbours, e.g. to Germany.
Part 2 Admissibility of the complaint

Introduction

The complaint is admissible.

Belgium ratified the ESPOO Convention on June 9th 1999.\(^1\)

Belgium is the obliged party under Article 3 Para 1 ESPOO and was obliged to conduct a transboundary impact assessment for each of the life time prolongations of the three reactors. The lifetime extension of a NPP is an activity within the framework of Art. 2 Para 1 and Annex I ESPOO with potential likelihood to cause a significant adverse transboundary impact, following Art. 3. Para 3 ESPOO. Belgium has not undertaken any of the steps foreseen under ESPOO in view of his neighbours. (see details below)

The legal position and responsibility of the plaintiffs

The plaintiffs have a direct interest to be able to participate in a proper transboundary EIA to be organised by Belgium under ESPOO for Tihange 1 lifetime extensions, Doel1 and Doel 2 lifetime extension.

Both plaintiffs are as federal states obliged under their respective constitutions to protect the population of their country, following Art. 1 Para2 and 4 as well as Art. 69 Para 1 of the constitution of Rhineland- Palatinate of 18th of May 1947 as well as Art, 4 Para 1 in connection with Art. 29 a of the Constitution of North Rhine-Westphalia of 28. June 1950.

As enshrined in Article 20 (1) of the German Basic Law (Grundgesetz), the Federal Republic of Germany is a democratic and social, federal state. The federal structure laid down by the constitution provides for a principle of statehood at two levels. The federal state is composed of a central government (Bund) and a number of constitutive states (Länder). The German Länder have united to form a Federation under the name Federal Republic of Germany (Bundesrepublik Deutschland). The different constitutions of the 16 constitutive states of this Federation gives and guarantees state authority and territorial and personal sovereignty to the federal states. State authority in the federal state of Germany is distributed between the Federation (Bund) and the member states (Länder).

The Basic Law assigns the exercise of state authority and the discharge of state functions to the constitutive states of the Federation, except as otherwise provided or permitted by the constitution itself in its Basic Law. Competence is thus principled to lie with the Länder unless otherwise specified.

Both plaintiffs as public authorities are constitutionally obliged to protect the German citizens and their interests towards third States. This was underlined in

\(^1\) [https://treaties.un.org/Pages/showDetails.aspx?objid=080000028002887c]
several key decisions of the German Constitutional Court (Bundesverfassungsgericht) as constitutional protection obligations\(^2\). This is especially binding when measures of a foreign government may lead to consequences in Germany.\(^3\)

In case of a planned project or activity in another state where thus an EIA should be executed and if such an activity potentially would lead to the significant environmental consequences in Germany, the inner German responsibility for the respective transboundary procedure lies with the respective authority which is clearly identified in Art. 9 b of the German EIA law.\(^4\) This is the authority which would be responsible for the procedure if under a similar procedure concerning a German activity this authority would be responsible. These authorities are following Art. 24 Para 2 of the German Nuclear Code (Atomgesetz AtG) the Supreme Landes authority, thus both plaintiffs.\(^5\)

The German government shares the criticism concerning the safety of the Belgian NPPs and had recently first, informal talks with the Belgian government on various security issues but - so far- has not opened the path towards formal ESPOO consultation.

Since the plaintiffs are not signatories to the ESPOO themselves but the Federal State of Germany, again fully in line with the German division of competencies, the plaintiffs take the path of the complaint procedure under ESPOO and ask the implementation committee to start procedures towards Belgium in order to open the ESPOO procedures for all three NPPs indicated.

**Interim Result**

As a result the complaint of the plaintiffs against Belgium before the Implementation Committee is admissible.

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\(^2\) See Judgment of the Constitutional Court (Bundesverfassungsgericht, BVerfG) BVerfGE 6, 290 (299); 40, 141 (177 f.); 41, 126(182); 55, 349 (364); 133, 273 (313 f.).

\(^3\) See BVerfG of 04. September 2008 - 2 BvR 1720/03.

\(^4\) Gesetz über die Umweltverträglichkeitsprüfung (UVPG).

\(^5\) This is the explicit opinion of the German government as well, see: answer of the government to a members of the German Parliament in a written question procedure, Kleine Anfrage der Abgeordneten Sylvia Kotting-Uhl, Bettina Herlitzius, Olivier Krischer, weiterer Abgeordneter und der Fraktion BÜNDNIS 90/DIE GRÜNEN, Drs. 27/11483.
Part 3 The complaint is well founded

Introduction

As will be outlined below, all three extensions of lifetime, for Tihange 1 as well as for Doel 1 and Doel 2 are activities which are obligatorily requiring a transboundary EIA under ESPOO from Belgium.

This is in line with the Belgium application of ESPOO and of the European EIA Directives in its national law. Belgium has violated its own national law and ESPOO.

All extensions of lifetime are activities under Art. 2 Para 2 in relation with Annex I point 2 ESPOO.

All three extensions of lifetime lead each to the risk of significant adverse transboundary environmental impact on the plaintiffs and their population in line with Art. 2 Para 1 ESPOO.

Belgium violated Art. 2 Para 3 ESPOO since it did not undertake the EIAs prior to its decisions to authorise extension of lifetime.

Activities obligatorily requiring a transboundary EIA

As outlined already by the Implementation committee in previous case law, extensions of lifetime of a NPP even without changing of the structure of the NPP is an activity in the sense of Art. 2 Para 1 ESPOO.

We refer to ESPOO implementation committee case EIA/IC/C1/4 concerning lifetime extension for two NPPS in Ukraine (Rivne NPP) where the committee outlined this clear opinion and urged the Ukraine to conduct a transboundary EIA\(^6\) and where it gave its following clear evaluation: “59. Recalling its conclusion at its twenty-fifth session, the Committee finds that the extension of the lifetime of reactors 1 and 2 of the Rivne NPP after the initial licence has expired, even in absence of any works, is to be considered as a proposed activity under article 1, paragraph (v), and is consequently subject to the provisions of the Convention.”

In Belgium, the same path than in Ukraine has been taken, meaning several life time extensions without EIA and without transboundary EIA:

Belgium is since 2003 committed to a phase out of all NPPs in the country.

The Belgium law of the 31\(^{st}\) of January 2003 “Loi sur la sortie progressive de l’énergie nucléaire à des fins de production industrielle d’électricité\(^7\) introduced a limitation of lifetime with Art 4 Para 2 a) in junction with Ar. 4 Para 1. It coupled the lifetime permit with the operating license, after achievement of the 40 year lifetime the operation permit ends as well.

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\(^6\) Implementation Committee, Geneva, 25–27 February 2014, Report of the Implementation Committee on its thirtieth session; Annex (Findings and recommendations further to a Committee initiative concerning Ukraine (EIA/IC/C1/4)).

\(^7\) Published 2003-02-28.
Art. 4 reads as follows:

"Art. 4. § 1. Les centrales nucléaires destinées à la production industrielle d'électricité à partir de la fission de combustibles nucléaires, sont désactivées quarante ans après la date de leur mise en service industrielle et ne peuvent plus produire d'électricité dès cet instant.

§ 2. Toutes les autorisations individuelles d'exploitation et de production industrielle d'électricité à partir de la fission de combustibles nucléaires, délivrées pour une période sans limitation de durée par le Roi :

a) en vertu de la loi du 29 mars 1958 relative à la protection de la population contre les dangers résultants des radiations ionisantes ainsi que sur base de l'article 5 de l'arrêté royal du 28 février 1963 portant Règlement général de la protection de la population et des travailleurs contre le danger des radiations ionisantes et qui restent d'application en vertu de l'article 52 de la loi du 15 avril 1994;

b) sur base de l'article 16 de la loi du 15 avril 1994, ainsi qu'en vertu des articles 5 et 6 de l'arrêté royal du 20 juillet 2001 portant règlement général de la protection de la population, des travailleurs et de l'environnement contre le danger des rayonnements ionisants;

« prennent fin quarante ans après la date de la mise en service industrielle de l'installation de production concernée. »

Art. 9 of the law of 2003 contained a security clause: “En cas de menace pour la sécurité d'approvisionnement en matière d'électricité, le Roi peut, par arrêté royal délibéré en Conseil des Ministres, après avis de la Commission de Régulation de l'Electricité et du Gaz, prendre les mesures nécessaires, sans préjudice des articles 3 à 7 de cette loi, sauf en cas de force majeure. Cet avis portera notamment sur l'incidence de l'évolution des prix de production sur la sécurité d'approvisionnement.”

Amendment of the law of 2003 in 2013 and first lifetime extension (Tihange 1)

With a legal reform in 2013 a concrete set of phase out dates is introduced by the new, amended law Art. 4 §1 is replaced by Art. 3 no. 1 of this law of 18. December 2013 § Art. 4 § 2 is replaced by Art. 3 no. 2

With these amendments binding day-sharp limitations of lifetime and operating license were introduced. On the other hand for the NPP Tihange 1 a prolongation of lifetime to 50 years via an extension for 10 years was introduced:

“Dans l'article 4 de la même loi, les modifications suivantes sont apportées: 1° le § 1er est remplacé par ce qui suit : " § 1er.Les centrales nucléaires destinées à la production industrielle d'électricité à partir de la fission de combustibles nucléaires, sont désactivées aux dates suivantes et ne peuvent plus produire d'électricité dès cet instant: - Doel 1 : 15 février 2015; - Doel 2 : 1er décembre 2015; - Doel 3 : 1er octobre 2022; - Tihange 2 : 1er février 2023; - Doel 4 : 1er juillet 2025; - Tihange 3 :

8 Published 24 December 2013.
1er septembre 2025; - Tihange 1: 1er octobre 2025.”; “2” le § 2 est remplacé par ce qui suit : "§ 2. Dans les autorisations individuelles d’exploitation et de production industrielle d’électricité à partir de la fission de combustibles nucléaires, délivrées pour une période sans limitation de durée par le Roi, a) en vertu de la loi du 29 mars 1958 relative à la protection de la population contre les dangers résultants des radiations ionisantes ainsi que sur base de l’article 5 de l’arrêté royal du 28 février 1963 portant règlement général de la protection de la population et des travailleurs contre le danger des radiations ionisantes et qui restent d’application en vertu de l’article 52 de la loi du 15 avril 1994;b) sur base de l’article 16 de la loi du 15 avril 1994, ainsi qu’en vertu des articles 5 et 6 de l’arrêté royal du 20 juillet 2001 portant règlement général de la protection de la population, des travailleurs et de l’environnement contre le danger des rayonnements ionisants; les dispositions relatives à la permission de production industrielle d’électricité à partir de la fission de combustibles nucléaires prennent fin à la date mentionnée au paragraphe 1er. Les autres dispositions restent intégralement d’application jusqu’à ce qu’elles soient adaptées en vertu de la loi du 15 avril 1994 ou de ses arrêtés d’exécution.”

Art. 5 of this law moreover completely deleted the provisions under previous Art. 9, thus the emergency clause. Therefore also Doel1 and Doel 2 did since 2013 no longer have a possibility for any exceptional prolongation of lifetime. Only Tihange 1 received such prolongation under this amended law.

But for the question of transboundary EIA the preliminary result is that Belgium did not conduct a transboundary EAI for the prolongation of lifetime of Tihange 1.

**Interim result for Tihange 1**

For the prolongation of Tihange 1 lifetime and operating license Belgium should have introduced a transboundary EIA under Art. 2 Para 1 ESPOO in junction with Annex I no. 2 ESPOO. This did not happen.

**Lifetime extension for Doel 1 and Doel 2**

In obeying the legal provision of the law of December 2013, Electrabel closed the 15. February 2015 the operation of Doel 1 after expiry of the operation license under the law and prepared to defuel it.9

The license for Doel 2 would have ended 15 December 2015 and it is at present unclear if Doel 2 has a valid license to operate after this date as will be shown below.

On the 28th of June 2015 the law was amended again 10 and now a procedure for the extension of lifetime for Doel 1 and Doel 2 to 50 years was introduced. The

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Belgium parliament voted for the new law.\textsuperscript{11} End of November 2015 the
government concluded a contract with the operator, Electrabel for a lifetime
extension for Doel 1 and Doel 2.

The law was then published on the 12. January 2016.\textsuperscript{12}

State aid investigation by the European Commission

But before the Parliament could vote finally in favour of the life time extension
agreement with the operators, the European Commission started pre-investigation
procedure against Belgium under state aid rules in January 2016. Therefore the law
with the agreement could not be voted finally and the parliament is discussing a
clause that the law is pending before green light from the Commission. \textsuperscript{13}

The EU Commission questions the urgency need for a prolongation of life time due
to security of supply reasons, in view of the fact that Doel 3 and Tihange 2 are again
back on the grid after longer interruptions. Belgium received with letter of 3\textsuperscript{rd} of
February 2016 an official list with 18 questions by the EU Commission concerning
the issue of security of supply and several issues of the financial benefits given to
the operators by Belgium in the above mentioned agreement\textsuperscript{14}. Belgium has two
months since February 2016 to answer the questions. The following input by the
European Commission is specifically pertinent for this complaint to the
implementation committee under ESPOO:

\textit{"Vos autorités nous ont expliqué que la prolongation de la durée de vie des
centrales nucléaires était nécessaire pour des raisons de sécurité d’approvisionne-
ment de la Belgique. Néanmoins la convention n’a été signée que le 30 novembre
2015, c’est-à-dire après l’accord de l’Agence Fédérale de Contrôle Nucléaire (AFCN)
sur le redémarrage des centrales de Tihange 2 et Doel 3 (qui a été donné le 17
novembre 2015)\textsuperscript{15}}

Interim Result for Doel 1 and Doel 2

Belgium would have been obliged to start ESPOO proceedings also for the
prolongation of lifetime for Doel 1 and Doel 2 NPP:

\textsuperscript{11} http://www.rtbf.be/info/belgique/dossier/gouvernement-michel/detail_nucleaire-apres-70-heures-de-debat-la-chambre-approvera-la-prolongation-ce-jeudi?id=9009773

\textsuperscript{12} http://www.etaamb.be/fr/2015000784.html

\textsuperscript{13} L’Europe s’interroge sur la prolongation de Doel 1 et 2 Le Vif Rédaction en lignes16/02/16 à 14:06 -
Mise à jour à 16:55 Source: Belga.

\textsuperscript{14} EU Commission Dossier nr: B2/AV/VB/jbl/2016/011711, printed in
http://www.lesoir.be/1123303/article/economie/2016-02-16/nucleaire-18-questions-critiques-
commission-europeenne-marhgem

\textsuperscript{15} http://www.lesoir.be/1123292/article/economie/2016-02-16/nucleaire-18-questions-critiques-
commission-europeenne-marhgem
The Belgium law requires a transboundary EIA

As outlined the NPPs are located in the border regions to Germany and the Netherlands so that the observation of the transboundary EIA evaluation is binding.

The Belgian law of 15th of April 1994 on the protection of the population and the environment against ionisation from NPPS lays down the principles:

The law mirrors ESPOO when classifying that for installations under category I, an EIA must be issued before licensing. The execution of the EIA is under Belgian law in the responsibility of the operator. The international dimension is to be observed for a transboundary EIA.

Indeed, Belgium had applied its own code also for alterations after the first operating license was issued and conducted two transboundary EIA, as was the case in 2007 for Doel 1 and Doel 4, when a steam generator had been replaced (Doel 1) respectively a modification of the exploitation regime should take place (Doel 4).

Belgium as Party of origin under ESPOO:

1. EIA concerning the nuclear power station Doel-1
   - replacement of the steam generators
   - affected Party: the Netherlands

2. EIA concerning the nuclear power station Doel-4
   - modification of exploitation regime
   - affected Party: The Netherlands
   - period: June 2008 - September 2008

Several communities from the Netherlands had participated respectively. It is not understandable why Belgium did not pursue the EIA under ESPOO for the extensions of lifetime? It is all the more astonishing since despite this obvious refusal by Belgium to observe ESPOO, Belgium had explicitly outlined the existence of legal application of EIA for post project analysis under Art. 7 ESPOO in its report to the ESPOO Secretariats.

“FEDERAL AGENCY FOR NUCLEAR CONTROL: In case an obvious environmental impact has been identified, post-project analysis will be included as a licensing (permit) condition.”

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Significant adverse transboundary impact

The plaintiffs underline the high security risk in relation to the seven Belgian NPP and that in both German regions as in the bordering Netherlands tension and fear is rising in view of the reliability and safety of the Belgian NPPs. Doel and Tihange affect potentially negatively millions of inhabitants of a large part of Germany and the Netherlands.18

After the - INES19 (International Nuclear and Radiological Event Scale) 7 nuclear accident in Fukushima five years ago in March 2011, the European Commission had ordered so-call stress tests form the European Member states in view of the safety of their nuclear installations20. The European Council concluded in 24./25. March 2011 that the safety of all EU nuclear plants should be reviewed on the basis of a comprehensive and transparent risk assessment (“stress test”).

The methodology for the stress test was developed by the Western European Nuclear Regulators Association /Reactors Harmonisation Working Group (WENRA/RHWG) with detailed regulations published the 11th of October 2011 European Nuclear Safety Regulators Group (ENSREG).21

The responsible authority in Belgium is FANC, Agence Fédérale de Contrôle Nucléaire22. The reports for Belgium concerning the safety of installations are under the supervision of FANC23.

As result of the stress tests, the ENSREG action plan and the peer review and findings of the extraordinary meeting of the CNS in 2012, a Belgian national action plan was issued in December 2012. Nearly 300 individual actions have been identified, and are currently being implemented.24

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18 Compare for example the results from the Nature2011, IRSN2012 and PPUJ2014 studies.

19 The International Nuclear and Radiological Event Scale (International Atomic Energy Agency, IAEA). The INES scale applies to any event associated with the use, storage and transport of radioactive material and radiation sources, whether or not the event occurs at a facility; this includes events involving the loss or theft of radioactive sources or packages and the discovery of orphan sources, such as sources being discovered in scrap metal. http://www-ns.iaea.org/tech-areas/emergencylines.asp


21 See, Übereinkommen über nukleare Sicherheit- Bericht der Regierung der Bundesrepublik Deutschland für die Sechste Überprüfungstagung im März/April 2014, S. 23 f.

22 http://www.fanc.fgov.be

23 The various reports that have been issued by or for Belgium are also available on the following ENSREG website: http://www.ensreg.eu/EU-Stress-Tests/Country-Specific-Reports/EU-Member-States/Belgium (in English) and on the FANC website: http://www.fanc.fgov.be/fr/page/stress-tests-nucleaires/s431.aspx (in Dutch and French).

24 The Belgian National action plan is available on the ENSREG web page: http://www.ensreg.eu/node/694 (in English).
The Belgian nuclear security policy has been recently intensively criticised and the Belgian action plans after stress tests are criticized as being too theoretical and study-focused and to employ too little the quest for concrete activities to reinforce the security of the seven reactors.\textsuperscript{25}

The major critical points are:

- The flooding risks for Doel and Tihange remain high. The Belgian National Action Plan does not bring clarity in view of the installation of filter systems.

- There is a lack of provisions to prevent the further occurrences of building up of hydrogen in the cooling basins.

- Doel 1, Doel 2 and Tihange 1 have problems with the protection of their security systems and would be highly vulnerable in case of an aircraft crash.

Already the official list of critical points by the IAEA after the Peer Review on invitation by Belgium and the FANC in 2014 and concerning Tihange 1 and the feasibility for prolongation to 50 years is quite long:\textsuperscript{26}

\textbf{Severe adverse impact risk for North Rhine Westphalia and Rhineland-Palatinate}

Both plaintiffs fear severe adverse transboundary environmental impact for the three prolongations of lifetime and operating license, for Doel 1 Doel 2 and Tihange 1.

The plaintiffs underline that a negative impact starts already from approx. 600 Bq/m\textsuperscript{2} deposition\textsuperscript{27}

The for example the Flexrisk study proves the devastating potential for their regions concerning an expansion of Cs-137.\textsuperscript{28}

The borders of their regions are only few kilometres away from Tihange: approx. 60 km for the case of North Rhine Westphalia and approx. 80 km in the case of Rhineland Palatinate.


\textsuperscript{27} http://flexrisk.boku.ac.at/en/evaluationCountryExport.phtml
A study by the Universität für Bodenkultur in Vienna had already some years ago simulated the consequences of a INES 7 accident. Following their results under negative weather conditions (although they rarely apply to such an extent), cities such as Aachen in North Rhine Westphalia or Hellenthal and Prüm in Rhineland Palatinate would risk to be declared to regions long-term uninhabitable.²⁹

The Universität für Bodenkultur together with other scientific institutes had further developed evaluation and risk assessment tools, „flexRISK – Flexible Tools for Assessment of Nuclear Risk in Europe“ and relates in its final report also to Tihange 1 in reality to a wide and broad spread soil pollution by Cs-137.³⁰

But already below INES 7 there is a strong risk of heavy negative impact and need for costly protection measures, e.g. in the agricultural sector. If the NPPs in Belgium emit exaggerated amounts of radio nuclides, it can result -on the basis of meteorological data- in a harmful deposition in the regions of the two plaintiffs which may need to enforce restriction actions under the German radiation protection rules.

Such an analysis can be done in view of Doel 1 and Doel 2 as well, with similar results:

Both NPPs are in distance of just 130 km to the North Rhine Westphalian border and approx. 180 kilometres to the border of Rhineland Palatinate and hence still under risk of severe adverse transboundary environmental impact in view of health protection, husbandry and agriculture.

The following graph concerning Doel emission risks serves already as demonstration, that even emission on a INES 5 scale can have negative consequences e.g. for Aachen but also other parts of the regions of the plaintiffs. The graph shows an INES 7 level, but it allows to interpret the shown depositions by scaling downwards. This scale simulates the dominating weather conditions, therefore the impact as such remains relevant even with lower rates of emissions.

The plaintiffs conclude in underlining, that the implementation committee already esteems even a low probability of the realisation of negative effects as sufficient for the necessity to follow a transboundary EIA under ESPPO.³¹

Overall, the risk of significant adverse transboundary impact on the two regions is well-founded. Belgium had to follow the ESPPO rules and had to do it before authorising a prolongation of the lifetime of all three NPPs.


³¹ See Communication ACC/C/2013/92 was submitted by a member of the German Parliament in June 2013. It alleged non-compliance by the United Kingdom with Article 6 of the Aarhus Convention in connection with its alleged failure to provide the German public with opportunities to participate in a transboundary EIA procedure concerning the proposed construction of two nuclear reactors at HPC.
Part 4 Result

Belgium violated the provisions under ESPOO, Art. 2 Para 1 in relation with Annex I no. 2, Art. 3, 4, 5, 6, and Art.7 ESPOO concerning the extension of lifetime for the Belgian NPPs Doel 1 and Doel 2 and Tihange 1.

The Implementation Committee is asked to enter infringement procedures against the Kingdom of Belgium.

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