



Brussels, 1.12.2021
C(2021) 8560 final

COMMISSION NOTICE

regarding application of the Environmental Impact Assessment Directive (Directive 2011/92/EU of the European Parliament and of the Council, as amended by Directive 2014/52/EU) to changes and extension of projects - Annex I.24 and Annex II.13(a), including main concepts and principles related to these

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1 Introduction

The aim of this guidance document is to provide clarification to competent authorities and stakeholders on the application of Directive 2011/92/EU¹ on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU² (the Environmental Impact Assessment (EIA) Directive), in the light of the latest case law as provided by the European Court of Justice of the European Union (CJEU). In particular, the guidance focuses on changes and extensions, as listed under Annex I and Annex II of the EIA Directive, and dedicates a specific chapter to the nuclear sector.

Point 24 of Annex I and point 13(a) of Annex II concern changes and extensions of projects and have a broad application, as they cover modifications of all project categories under the scope of the EIA Directive. The correct application of the EIA Directive to changes and extensions of projects is key for the overall implementation of the EIA Directive.

Some of the latest case law, and especially the Court ruling in case C-411/17³ on the life-time extension of the nuclear power plant situated in Doel, Belgium (further referred to as “*the Doel ruling*”), have brought new elements to be considered when dealing with the changes of projects under Annex I and confirmed the main principles for the application of the EIA Directive. Also due to their general procedural character, both project categories related to project change or extension have been subject to numerous requests for information regarding their application from the competent national authorities and other stakeholders.

Based on the abovementioned considerations, the Commission has therefore decided to issue this guidance in order to describe those concepts and principles under the EIA Directive, including definitions and provisions of the EIA Directive. By providing contextualised illustrations of the EIA Directive obligations, promoting a consistent approach and framing the applicable provisions on the changes and extensions of projects, the guidance aims to enhance the implementation of the EIA Directive.

Given that there are numerous practical situations, which are often complex, and that the EIA Directive applies to a great variety of sectors and type of projects, it is not possible to provide an exhaustive list of examples. The competent national authorities may have to apply the EIA Directive requirements on a case-by-case basis and to evaluate each case, taking into account the specific circumstances. To achieve a consistent implementation of the EIA directive, the Commission encourages Member States to initiate, on a voluntary basis, a benchmarking exercise as regards changes and extension of projects. Such an exercise would offer an opportunity to pool expertise and compare examples from each Member State, and could progressively lead to the development of common methodologies at EU level and facilitate practical implementation in specific cases.

¹ OJ L 26, 28.1.2012, p. 1–21.

² OJ L 124, 25.4.2014, p. 1–18.

³ C-411/17, Inter-Environnement Wallonie and Bond Beter Leefmilieu Vlaanderen, ECLI:EU:C:2019:622.

1.1 Available sources of information

Only the Court of Justice of the European Union is competent to provide the authoritative interpretation of European Union law. The EIA Directive has often been the subject of cases brought before the Court, and a number of cases have addressed the question of the definitions, description or scope of individual project categories listed in Annex I and II.

The Court rulings contain key general principles that usefully guide the interpretation of project categories listed in the EIA Directive, as well as other concepts, including the interpretation of ‘project’ itself.

Aside from this guidance document, the Commission services have also prepared and are regularly updating a booklet on the Rulings of the Court of Justice - Environmental Impact Assessment of Projects⁴.

The EIA Directive explicitly refers to other international agreements such as the Convention on Environmental Impact Assessment in a Transboundary Context (the Espoo Convention)⁵ and Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (the Aarhus Convention).⁶ The EIA Directive should thus be interpreted in accordance with those Conventions.⁷ In addition, given the wide range of sectors covered by the EIA Directive, many other legislative instruments at EU level contain definitions of terms included in or deal with activities covered by Annexes I and II.⁸

In preparing this guidance, the Commission took account of the Guidance document on the applicability of the Espoo Convention to lifetime extension of nuclear power plants developed in the framework of the United Nations Economic Commission for Europe (ECE)⁹.

⁴ https://ec.europa.eu/environment/eia/pdf/EIA_rulings_web.pdf (this document does not reflect the official opinion of the Commission, is not binding for the Commission and is not being endorsed by this notice).

⁵ OJ C 104, 24.4.1992.

⁶ OJ L 124, 17.05.2005.

⁷ See, to that effect, Opinion of Advocate General Kokott on Case C-411/17, paragraph 105 (“*Because the EIA Directive is intended to implement much of the [Espoo] Convention, it is desirable, however, to interpret it in accordance with the Convention. Furthermore, the EU’s powers must be exercised with due regard for international law; consequently, EU secondary law must in principle be interpreted in accordance with the EU’s obligations under international law.*”).

⁸ Different acts of legislation may have different objectives that could in turn influence the scope and meaning of project classifications and definitions that they contain. Thus, a certain project classification in one directive may not necessarily precisely prescribe how the same project type is to be interpreted in the context of another directive. As stated by the Court (see for example Case C-227/01, Commission v Spain), EU law is to be interpreted by reference to the purpose and general scheme of the rules of which it forms part.

⁹ https://unece.org/sites/default/files/2021-02/Guidance_on_Conventions%20applicability_to_LTE%20of%20NPPs_As%20endorsed%20and%20edited.pdf

2 Key principles and definitions

2.1 Environmental impact assessment – scope

The EIA Directive lays down procedural obligations relevant to public and private projects within its scope that are likely to have significant effects on the environment. These projects have to be subject to a development consent and undergo an assessment in terms of their effects on the environment before such consent is issued.

Projects falling under the scope of the EIA Directive are divided into categories and listed in Annexes I and II. Projects listed in Annex I are those that are considered as having significant effects on the environment and as a rule are subject to a mandatory assessment (Article 4(1) of the EIA Directive). Pursuant to Articles 2(1) and 4(1) of the EIA Directive, and notwithstanding the exceptional cases referred to in Article 2(4), the environmental effects of projects falling under Annex I to the Directive must, as such and prior to authorisation, be evaluated systematically¹⁰. It follows that the Member States have no room for discretion in this respect. Furthermore, most of the project categories as mentioned in Annex I contain thresholds, which are directly related to the scope of application. If thresholds are assigned for Annex I project categories in the national legislation for which such thresholds are not set up in Annex I, this would limit the scope of application of the EIA Directive¹¹.

Projects listed in Annex II do not necessarily have significant effects on the environment in every case. They should undergo a determination process – commonly known under the term “screening” – to establish if they are likely to have significant effects on the environment. Pursuant to Article 4(2) of the EIA Directive, the determination of the likely significant environmental effects may be carried out through a case-by-case examination, by setting thresholds or criteria, or by a combination of these methods, taking account of the relevant selection criteria in Annex III to the Directive (characteristics of the projects, location of the projects, type and characteristics of the potential impact).

Article 2(1) of the EIA Directive – as a key guiding principle and fundamental objective – limits the discretion of Member States, especially for Annex II projects, by requiring that projects are to be subject to an impact assessment if they are likely, by virtue inter alia of their nature, size or location, to have significant effects on the environment¹².

2.2 Key relevant definitions and provisions of the EIA Directive

This following section is outlining the main relevant definitions and provisions related to the projects and their changes or extensions.

¹⁰ See, to that effect, Case C-486/04 *Commission v. Italy*, paragraph 45, and Case C-255/05 *Commission v Italy*, paragraph 52.

¹¹ See C-435/09, *Commission v Belgium*, paragraphs 86 and 88.

¹² C-72/95, *Kraaijeveld and Others*, paragraph 50; C-2/07, *Abraham and Others*, paragraph 37; C-75/08 *Mellor*, paragraph 50; C-427/07, *Commission v. Ireland*, paragraph 41

2.2.1 Project

Article 1(2)(a) of the EIA Directive defines ‘project’ as:

‘ - the execution of construction works or of other installations or schemes,
- other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources.’

Presence of physical works

The Court has consistently confirmed on several occasions¹³ that the term “project” refers to works or physical intervention. A renewal of an existing permit (for example to operate an airport as in case C-275/09, Brussels Hoofdstedelijk Gewest and others, paragraph 24, or of a landfill as in case C-121/11, Pro-Braine and Others, paragraph 31) cannot, in the absence of any works or interventions involving alterations to the physical aspect of the site, be classified as a ‘project’, within the meaning of the Article 1(2)(a). Therefore, **the existence of works or physical interventions is a prerequisite** for an activity to qualify as a “project” within the meaning of the EIA Directive.

In the *Doel* ruling, the Court has recalled that: “*It follows from the case law of the Court that the definition of the term ‘project’, specifically in the context of the wording of the first indent of Article 1(2)(a) of the EIA Directive, refers to work or interventions involving alterations to the physical aspect of the site*” (paragraph 62).

The same principle, when applied to Annexes I.24 and II.13(a), means that in order to fall under the scope of the EIA Directive and the definition of project under Article 1(2)(a) changes or extensions of existing projects pre-suppose works or interventions involving alterations to the physical aspects of the original projects¹⁴.

2.2.2 Development consent

Article 1(2)(c) of the EIA Directive defines ‘development consent’ as follows:

‘(c) “development consent” means the decision of the competent authority or authorities which entitles the developer to proceed with the project’.

The need for development consent

On several occasions the Court has stressed that “Member States must implement the EIA Directive in a manner which fully corresponds to its requirements, having regard to its fundamental objective which, as is clear from Article 2(1), is that, before development consent is given, projects likely to have significant effects on the environment by virtue, inter

¹³ Case C-2/07, Abraham and Others, paragraph 23; Case C-275/09, Brussels Hoofdstedelijk Gewest and Others, paragraph 24; C-121/11, Pro-Braine and Others, paragraph 31.

¹⁴ By analogy, case C-275/09, Brussels Hoofdstedelijk Gewest and others, paragraph 24; case C-121/11, Pro-Braine and Others, paragraph 32.

alia, of their nature, size or location should be made subject to a requirement for development consent and an assessment with regard to their effects”¹⁵.

Therefore changes or extensions to projects within the meaning of point 24 of Annex I or point 13(a) of Annex II of the EIA Directive that are likely to have significant effects on the environment, shall be made subject to a requirement for a development consent.

The form of development consent

The EIA Directive defines the development consent as the decision of the competent authority or authorities, which entitles the developer to proceed with the project¹⁶.

The term “development consent” covers thus a wide variety of acts (i.e. decisions, permits and other authorising instruments), depending on the national procedures applicable in the Member States. It is not defined by its title or the procedure of its adoption in accordance with respective national law of a given Member State, but by its legal effect. As pointed out by the Court, the classification of a decision as a ‘development consent’ within the meaning of Article 1(2)(c) of the EIA Directive must be carried out pursuant to national law in a manner consistent with EU law¹⁷.

The EIA Directive does not require a single procedure for consent¹⁸ and in accordance with Article 2(2) of the EIA Directive, the EIA “*may be integrated into the existing procedures for development consent to projects in the Member States or, failing this, into other procedures or into procedures to be established to comply with the aims of this Directive*”. Therefore differences are observed across Member States when it comes to the terminology related to the development consent. As well as different titles (e.g. construction permit, decision, authorisation), also the procedure leading to adoption of a consent can differ. It is for example possible to adopt development consent through administrative procedure on local, regional or national level, or through a legislative procedure¹⁹, as long as relevant provisions of the EIA Directive are complied with. The development consent itself has to be a definite decision giving right to the developer to proceed with the project (the same principle applies in cases of multistage procedures, see next section).

Where changes or extensions of projects within the meaning of point 24 of Annex I or point 13(a) of Annex II of the EIA Directive that are likely to have significant effects on the

¹⁵ C-287/98, *Linster*, paragraph 52; C-486/04, *Commission v Italy*, paragraph 36; C-215/06, *Commission v Ireland*, paragraph 49; C-329/17, *Prenninger and Others*, paragraph 35.

¹⁶ The Directive does not require an additional “consent” to that “development consent”, see C-332/04, *Commission v. Spain*, paragraph 53.

¹⁷ C-290/03, *Barker - Crystal Palace*, paragraphs 40-41.

¹⁸ C-50/09, *Commission v. Ireland*, paragraphs 73-75. “[Article 2(2)] means that the liberty left to the Member States extends to the determination of the rules of procedure and requirements for the grant of the development consent in question. However, that freedom may be exercised only within the limits imposed by that directive and provided that the choices made by the Member States ensure full compliance with its aims”.

¹⁹ For more details see section 4 of the Commission’s Guidance document regarding application of exemptions under the EIA Directive.

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environment are adopted via **legislative procedure**, they also need to be made subject to an assessment with respect to their effects on the environment in accordance with Article 2(1)²⁰.

In this context, it is also important to outline the difference between the development consent within the meaning of the EIA Directive and a permit/license related to operation (of an installation/facility/site). Such “permits”, as defined or used in other legislative instruments, for example the Directive on Industrial Emissions²¹ or the Landfill Directive²² are relevant for certain operating regimes. On the other hand the term “development consent”, as understood in the context of the EIA Directive, entitles, according to the definition, the developer to proceed with the project (e.g. to execute constructions works installations or schemes or other interventions in the natural surroundings and landscape²³). The operating permit or license is, based on the relevant legislation²⁴, mostly linked to an authorisation related to the operation of a project and is often based on and implementing a prior decision in the context of a multistage procedure. As mentioned in previous sections, a renewal of an operating permit/license, in the absence of any works or interventions involving alterations to the physical aspect of a site, is to be kept apart from the notion of “development consent”²⁵.

Changes and extensions to projects in multistage procedures

The authorisation of projects sometimes takes place within complex administrative procedures involving various stages and processes. In cases where a project change or extension is identified²⁶, it is key to determine ‘when’ the EIA should apply and ‘what’ should be assessed in each stage. In a consent procedure comprising several stages, that assessment must, in principle, be carried out as soon as it is possible to identify and assess all the effects, which the project may have on the environment²⁷.

In the *Doel* ruling, the Court has recalled the existing case law²⁸. According to Article 2(1) of the EIA Directive, in respect of projects covered by that Directive the environmental impact assessment must be conducted ‘before consent is given’ (paragraph 82). It has also stated that “*where national law provides that the consent procedure is to be carried out in several stages, the environmental impact assessment in respect of a project must, in principle, be*

²⁰ See the *Doel* case, paragraphs 103-114.

²¹ Directive 2010/75/EU, Article 3(7) - ‘permit’ means a written authorisation to operate all or part of an installation or combustion plant, waste incineration plant or waste co-incineration plant.

²² Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste.

²³ The qualification as “development consent” within the meaning of Art. 1(2)(c) of the Directive does not depend on the name (in national practices, examples of terms used are Construction permit, zoning permit, land use permit, (integrated) environmental permit, planning authorisation, location permit) but rather depends on whether the conditions set out in the directive are fulfilled..

²⁴ Other than the Industrial Emissions Directive the permitting regimes can be found for example under the waste legislation - Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste or Directive 1999/31/EC of 26 April 1999 on the landfill of waste. Example of a licensing regime can be found for example in Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations and amending Directive 2004/35/EC, etc.

²⁵ C-275/09, *Brussels Hoofdstedelijk Gewest and Others*.

²⁶ The principle of this section is also applicable to new projects.

²⁷ C-201/02, *Wells*, paragraph 52-53, operative part 1.

²⁸ Case C-201/02, *Wells*; Case C-508/03, *Commission v United Kingdom*; Case C-290/03, *Barker*.

carried out as soon as it is possible to identify and assess all potential effects of the project on the environment” (paragraph 85).

The Court also pointed to the situations where the consent procedure has several stages and one of the stages is a **principal decision**, setting the parameters for the other implementing decisions. In these cases, the environmental assessment has to be related to the principal decision, unless some of the effects on the environment are known only at a later stage and are related to the implementing decisions. Then the assessment of additional effects known at a later stage can be done at this later stage²⁹. According to the Court, a “principal decision” is the one which defines the “essential characteristics” of a project that would not be discussed or amended at a later stage³⁰. In such cases Member States have to ensure that the environmental impact assessment is related to the principal decision.

Furthermore, the Court has also addressed the need to assess the effects of such projects as a whole. Where a consent procedure comprises more than one stage — one involving a principal decision and another involving an implementing decision that cannot extend beyond the parameters set by the principal decision — the competent authority is, in some circumstances, obliged to carry out an environmental impact assessment in respect of a project even after the grant of outline planning permission, when the reserved matters are subsequently approved.³¹ This assessment must be of a comprehensive nature, so as to relate to all those aspects of the project that have not yet been assessed or which require a fresh assessment. As reiterated by the Court, the EIA Directive adopts an overall assessment of the effects of projects or the alteration thereof on the environment, which must not be limited to only the direct effects of the works envisaged themselves, and to the environmental impact liable to result from the use and exploitation of the end product of those works³². Such an assessment is also irrespective of whether the project might be transboundary in nature³³.

2.2.3 Splitting of projects

The purpose of the EIA Directive cannot be circumvented by the splitting of projects and the failure to take account of the cumulative effect of several projects must not mean in practice

²⁹ C-201/02, *Wells*, and C-2/07, *Abraham and Others*.

³⁰ See paragraph 88 of the Doel ruling: “88. Consequently, although further measures are required to implement those acts, in the context of a complex and regulated process designed, inter alia, to ensure compliance with safety and security standards applicable to industrial production of nuclear electricity, and those measures are subject, in particular, to prior approval by the AFCN, as is apparent from the explanatory memorandum to the Law of 28 June 2015, the fact remains that those measures, once adopted by the national legislature, define essential characteristics of the project and, a priori, should no longer be a matter for debate or reconsideration.”

³¹ In case C-50/09 the Court concluded that “in order to satisfy the obligation imposed on it by Article 3, the competent environmental authority may not confine itself to identifying and describing a project’s direct and indirect effects on certain factors, but must also assess them in an appropriate manner, in the light of each individual case” (paragraph 37). See also case C-508/03, *Commission v United Kingdom*, paragraphs 103 to 106.

³² C-2/07, *Abraham and Others – Liège airport*, paragraphs 42-43; C-142/07, *Ecologistas en Acción-CODA*, paragraph 39.

³³ C-205/08, *Umweltanwalt von Kärnten*, paragraph 51.

that they all escape the obligation to carry out an assessment when, taken together, they are likely to have significant effects on the environment within the meaning of Article 2(1) of the EIA Directive³⁴. This may be relevant in particular to complex projects developed in stages for which subsequent applications for authorisation may be needed.

Where several projects, taken together, may have significant effects on the environment within the meaning of Article 2(1) of the EIA Directive, their environmental impact should be assessed as a whole and in a cumulative way. In its case law, the Court advocates a broad interpretation of the EIA Directive and has stressed that the Directive seeks “*an overall assessment of the environmental impact of projects or of their modification*”³⁵.

For example in terms of length, the Court found that a long-distance project cannot be split up into successive shorter sections in order to exclude both the project as a whole and the sections resulting from that division from the requirements of the Directive. If that were possible, the effectiveness of the Directive could be seriously compromised, since the authorities concerned would need only to split up a long-distance project into successive shorter sections in order to exclude it from the requirements of the Directive³⁶.

The Court has also stressed that, with a view to deciding whether an environmental assessment must be carried out, it can be necessary to take account of the cumulative effect of projects in order to avoid a circumvention of the objective of the European Union legislation by the splitting of projects which, taken together, are likely to have significant effects on the environment. It is for the national authorities to examine, in the light of that case law, whether and to what extent the effects on the environment of the projects at stake and of the projects carried out earlier³⁷.

2.2.4 Assessment of the overall effects of a project

The *Doel* ruling confirmed another important principle of the EIA Directive that is the obligation to assess the overall effects of a project and to make a comprehensive EIA. In paragraphs 64-72, the Court considered that the measures set out for the extension of an existing project (the measures restarting a nuclear power plant for 10 years or deferring their shut-down by 10 years, as set out in paragraph 59) cannot be dissociated from the upgrading works to which they are inextricably linked, therefore together constituting a single project. Indeed, the measures contained in the 2015 law (lifetime extension) cannot be artificially dissociated from the works needed from a technical and financial point of view. These works

³⁴ C-392/96, *Commission v. Ireland*, paragraphs, 76, 82; C-142/07, *Ecologistas en Acción-CODA*, paragraph 44; C-205/08, *Umweltanwalt von Kärnten*, paragraph 53; C-2/07, *Abraham and Others – Liège airport*, paragraph 27; C-275/09, *Brussels Hoofdstedelijk Gewest and Others*, paragraph 36; Case C-244/12, *Salzburger Flughafen*, paragraph 37.

³⁵ Case C-2/07, *Abraham and Others – Liège airport*, paragraph 42.

³⁶ Case C-227/01, *Commission v Spain*, paragraph 53.

³⁷ Case C-244/12, *Salzburger Flughafen*, paragraph 37. In this case the projects at stake were related to the construction of ancillary buildings for an airport (i.e. warehouses, extension of vehicle parking areas and aircraft standing areas) that had to be considered with other projects approved earlier (i.e. construction of an additional terminal).

were known to the legislator and were linked to the Law (see paragraphs 67-69). Although the application of the principle was left to the national judge to verify, the Court considered that the measures and the works are part of the same project (paragraph 71).

In addition, the need to assess the overall effects of a project as a whole has to be duly addressed when numerous technical or operational changes are made during the operation of an installation. While it is common that a facility is undergoing continuous maintenance and multitude of safety improvements that would not present a significant risk to the environment if considered individually, in case where such operations would be tangibly linked to constitute a project in the sense of the EIA Directive, their cumulative impact on the environment should then be assessed as a whole.

Therefore, when there is an inextricable link between the multiple minor changes demonstrating that the minor changes are part of one complex activity (undertaken for example with a demonstrable intent to extend the lifetime of the nuclear power plant or the operation of an installation), these might represent a project in the sense of the EIA Directive. Technical documents, management plans, investment plans, administrative acts or laws, as well as explanatory memorandums related to administrative acts or laws can be helpful in establishing whether a series of changes are inextricably linked and are part of such complex activity (undertaken with a demonstrable intent to extend the lifetime of the nuclear power plant).

The need to consider the project as a whole (as regards both its components as well as its effects) has been further reinforced by the revised EIA Directive³⁸.

2.2.5 The remediation of the failure to carry out on environmental impact assessment

Member States must implement the EIA Directive in a manner which fully corresponds to its requirements, having regard to its fundamental objective. It is clear from Article 2(1) that before development consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location should be made subject to a requirement for development consent and an assessment with regard to their effects³⁹. This basic principle of the Directive implies that for projects listed in Annexes I and II of the Directive, respectively an EIA or a screening must be carried out before that project receives development consent.

³⁸ See Annexes II.A.1.a, III.1.a and IV.1b, as well recital 22 of Directive 2014/52/EU (“In order to ensure a high level of protection of the environment and human health, screening procedures and environmental impact *assessments* should take account of the impact of the *whole* project in question, including, where relevant, its subsurface and underground, during the construction, operational and, where relevant, demolition phases”).

³⁹ C-287/98, *Linster*, paragraph 52; C-486/04 *Commission v. Italy*, paragraph 36; C-215/06, *Commission v. Ireland*, paragraph 49.

Otherwise, the developer "*cannot commence the works relating to the project in question, if the requirements of the directive are not to be disregarded.*"⁴⁰

The EIA Directive does not provide for an *ex post* EIA or screening procedure, nor prescribes it as a possible legal remedy for failures to comply with the EIA Directive. Not carrying out a screening of projects listed in Annex II or an environmental impact assessment procedure of projects listed in Annex I, constitutes a breach of the European Union law⁴¹.

However, under the principle of sincere cooperation laid down in Article 4(3) TEU, Member States are required to remedy the consequences of a breach of Union law. The obligation to remedy the failure to carry out an EIA stems from the principle of cooperation laid down in the primary EU law and settled case law⁴². The competent authorities are therefore obliged to take, within the sphere of their competence, the measures necessary to remedy failure to carry out an EIA, for example through the revocation or suspension of a development consent already granted in order to carry out such an assessment, subject to the limits resulting from the procedural autonomy of the Member States⁴³.

The Court has held that EU law does not preclude national rules which, in certain cases, permit the regularisation of operations or measures which are unlawful in the light of EU law and has made it clear that such a possible regularisation would have to be subject to the condition that it does not offer the persons concerned the opportunity to circumvent the rules of EU law or to dispense with their application, and that it should remain the exception⁴⁴.

Ex post EIA is a possible remedial measure for *de facto* failures to comply with the EIA Directive (e.g. to situations in which development consent had already been granted without carrying out an EIA and works either performed, or about to be executed).

The Court has held that an assessment carried out after a project has been completed and has entered into operation cannot be confined to its future impact on the environment, but must also take into account its environmental impact from the time of the completion of the project. Therefore, in the event of failure to carry out an environmental impact assessment required under the EIA Directive, the EU law, on the one hand, requires Member States to nullify the unlawful consequences of that failure and, on the other hand, does not preclude regularisation

⁴⁰ Case C-215/06 Commission v. Ireland, paragraph 51. "[...] Article 2 (1) of that directive must necessarily be understood as meaning that, unless the applicant has applied for and obtained the required development consent and has first carried out the environmental impact assessment when it is required, he cannot commence the works relating to the project in question, if the requirements of the directive are not to be disregarded."

⁴¹ In addition, in the event of an omission to carry out an environmental impact assessment or screening, it is for national courts to determine whether the requirements of European Union law applicable to the right to compensation, including the existence of a direct causal link between the breach alleged and the damage sustained, have been satisfied (Case C-420/11, Leth, paragraphs 48).

⁴² Case C-201/02, Wells, paragraphs 66-70.

⁴³ Case C-215/06, Commission v. Ireland, paragraph 59, "[...] The competent authorities are therefore obliged to take the measures necessary to remedy failure to carry out an environmental impact assessment, for example the revocation or suspension of a consent already granted in order to carry out such an assessment, subject to the limits resulting from the procedural autonomy of the Member States.

⁴⁴ Cases C-215/06, Commission v Ireland, paragraph 57; C-416/10, Križan and Others, paragraph 87; C-348/15, Stadt WienerNeustadt, paragraph 36; C-411/17, Inter-Environnement Wallonie and Bond Beter Leefmilieu Vlaanderen, paragraph 174.

through the conducting of an impact assessment, after the project concerned has been completed and has entered into operation, on condition that:

- national rules allowing for that regularisation do not provide the parties concerned with an opportunity to circumvent the rules of EU law or to dispense with applying them, and
- an assessment carried out for regularisation purposes is not conducted solely in respect of the project's future environmental impact, but must also take into account its environmental impact from the time of its completion⁴⁵.

Ex post EIA procedures should be used **exceptionally** only and as a remedy to ensure that the objective of the EIA Directive are attained even if the procedure has not been formally carried out and it should not be applied by MS to circumvent the EIA Directive requirements.⁴⁶

The obligation for Member States to take all measures necessary to remedy the illegal consequences of the absence of EIA is also applicable in cases of failure to carry out and EIA to changes or extensions of projects.

3 Managing changes and extensions of projects

3.1 Background

Initially, Directive 85/337/EEC⁴⁷ did not explicitly cover changes or extensions of existing projects, with the exception of the reference in point 12 of Annex II to 'Modifications to development projects included in Annex I and projects in Annex II undertaken exclusively or mainly for the development and testing of new methods or products and not used for more than one year' (Annex II (12)).

Twelve years after the initial Directive, point 13 (a) of Annex II was inserted as the first project category on changes to projects, with the same wording that it has today. Namely, Directive 97/11/EC⁴⁸ amended Directive 85/337/EEC so as to include in Annex II (13): '*any change or extension of projects listed in Annex I or Annex II, already authorised, executed or in the process of being executed, which may have adverse effects on the environment*'⁴⁹.

⁴⁵ Cases C-196/16 and C-197/16, *Comune di Corridonia*, paragraphs 35-41 and 43; C-117/17, *Castelbellino*, paragraph 30, C-411/17, *Inter-Environnement Wallonie and Bond Beter Leefmilieu Vlaanderen*, paragraph 175.

⁴⁶ C-215/06, *Commission v Ireland*, paragraph 57; C-416/10, *Križan and Others*, paragraph 87; C-348/15, *Stadt WienerNeustadt*, paragraph 36.

⁴⁷ OJ L 175, 5.7.1985, p. 40–48.

⁴⁸ OJ L 73, 14.3.1997, p. 5–15.

⁴⁹ As a precursor to the insertion of Annex II.13(a) project category in the text of the Directive, the Court ruled in case C-72/95, *Kraaijeveld and others* that the Directive applies also to changes to projects. The Court found that the expression canalisation and flood-relief works referred to in point 10(e) of Annex II to Directive 85/337/EEC (before amendments by Directive 97/11/EC) should be interpreted as including not only construction of a new dyke, but also modification of an existing dyke involving its relocation, reinforcement or widening, and replacement of a dyke by constructing a new dyke in situ, whether or not the new dyke is stronger or wider than the old one, or a combination of such works (paragraph 42).

Point 24 of Annex I was inserted six years after the insertion of the first project category on project change. The amendments introduced by Directive 2003/35/EC⁵⁰ in view of aligning the Community legislation with the provisions of the Aarhus Convention made clear that an environmental impact assessment is mandatory for ‘*any change to or extension of projects listed in this Annex where such a change or extension in itself meets the thresholds, if any, set out in this Annex*’.

Since the insertion of point 24 of Annex I in the text of the Directive, the Court has delivered only one ruling interpreting this project category, the one in case C-411/17.

3.2 Concept of change /extension to a project

The EIA Directive does not define the terms “change or extension” and does not provide examples. What exactly constitutes a change or extension would depend on the type of project. Some examples of such changes or extensions are presented in Sections 3.3.1 and 3.3.2 below based on the case law of the CJEU.

Point 24 of Annex I and point 13(a) of Annex II are specific project categories, covering changes and extensions of all categories of projects in the scope of the EIA Directive, with all their specificities.

3.3 Annex I of the EIA Directive - Project category I.24

Annex I.24 - Any change to or extension of projects listed in this Annex where such a change or extension in itself meets the thresholds, if any, set out in this Annex.

Point 24 of Annex I refers explicitly to any change or extension of Annex I projects that meets the thresholds set out, if any, in that Annex⁵¹.

The Court in the *Doel* ruling further clarified a key principle triggering the obligation to conduct an environmental impact assessment for changes or extensions of Annex I projects, based on the environmental risk of such change.

The Court recalled that environmental impact assessments must be conducted for projects that are listed in Annex of the Directive if these are likely to have significant effects on the environment, by virtue of its nature, size or location, and continued:

“78. As regards point 24 of Annex I to the EIA Directive, it is evident from the wording and general scheme of that provision that it applies to any change or extension to a project, which by virtue of, inter alia, its nature or scale, presents risks that are similar, in terms of their effects on the environment, to those posed by the project itself.

79. The measures at issue in the main proceedings, which have the effect of extending, by a significant period of 10 years, the duration of consents to produce electricity for industrial purposes with respect to both power stations in question, which had up until then been limited

⁵⁰ OJ L 156, 25.6.2003, p. 17–25.

⁵¹ For changes/extensions of Annex I projects that are under the threshold but are carrying significant adverse effects on the environment see Annex II point 13(a).

to 40 years by the Law of 31 January 2003, combined with major renovation works necessary due to the ageing of those power stations and the obligation to bring them into line with safety standards, must be found to be of a scale that is comparable, in terms of the risk of environmental effects, to that when those power stations were first put into service.”

In paragraph 78 of the *Doel* ruling the Court established the key principle triggering the obligation to conduct an EIA in case of change or extension of Annex I projects. The measure of assessment of relevant criteria is the risk in terms of environmental effects. If the risk carried by the change or extension of the project is comparable to risk presented by the original project category itself, the project falls under point 24 of Annex I to the EIA Directive⁵².

In the case at hand, the Court referred both to the measures, which have the effect of extending the duration of consents to produce electricity and to the scale of the works. In paragraph 79, it referred to the extension of the running of the nuclear power plants by a significant period of time (10 years) and the fact that major renovation works⁵³ are necessary. The Court concluded that the environmental risks of the project are of a scale that is comparable to those when the nuclear power plants were first put into service.

The judgment refers to the nature or scale of the change or extension to a project as non-exhaustive examples for criteria to assess whether the environmental risks are similar to those of the original project. Also, the judgment does not indicate that both criteria have to be met cumulatively. The decisive element seems to be that the overall analysis of a given project shows that there are similar risks compared to the original project (in the case at hand nuclear power stations and nuclear reactors). It follows that nature and scale of the change/extension to a project do not seem to be the only possible criteria. Also, it does not seem necessary that the risks result from both nature and scale of the project, as long as they are, in result, similar to those of the original project. It does not seem excluded that the risk can also result from the nature of a project alone or from its scale (“*by virtue of, inter alia, its nature or scale*”⁵⁴).

3.3.1 Annex I – Projects with thresholds

For more than half of the project categories under Annex I, thresholds are set up. Therefore, for changes or extensions of such projects, which meet or exceed these thresholds, an EIA has to be undertaken, as these changes or extensions present risk similar to the original project category⁵⁵.

Nevertheless, it is important to note that based on the established case law, for works to modify elements of existing projects for which thresholds are set in Annex I it has to be

⁵² Case C-411/17, paragraphs 79-80.

⁵³ The scale of the renovation was demonstrated by the EUR 700 million investment budget earmarked for those power stations, Case C-411/17, para 64.

⁵⁴ *Ibid*, para 78.

⁵⁵ Also, based on Annex I.24, an EIA is needed for “*any change to or extension of projects listed in this Annex where such a change or extension in itself meets the thresholds, if any, set out in this Annex*”.

carefully assessed under which circumstances those thresholds are met. In Case C-2/07, Abraham and Others, the Court held that *'[...] works to modify an airport with a runway length of 2 100 metres or more thus comprise not only works to extend the runway, but all works⁵⁶ relating to the buildings, installations or equipment of that airport where they may be regarded, in particular because of their nature, extent and characteristics, as a modification of the airport itself. That is the case in particular for works aimed at significantly increasing the activity of the airport and air traffic'* (paragraph 36).⁵⁷

3.3.2 Annex I – Projects without thresholds

As for Annex I projects with thresholds, any change or extension of Annex I projects without thresholds, which by virtue of, inter alia, its nature or scale, presents risks that are similar, in terms of their effects on the environment, to those posed by the project itself, should be considered as falling under point 24 of Annex I. Such projects carry an inherent risk of significant effects on the environment, within the meaning of Article 2(1) of the EIA Directive, and should therefore be subject to an assessment of its environmental impact under Article 4(1).⁵⁸

The EIA Directive does not indicate a procedure for establishing the level of risk in terms of environmental effects of the project and it is therefore to the developers and the competent authorities to analyse the project at stake. An important element from the point of developers and competent authorities responsible for environmental impact assessment is to identify at which moment a project change or extension requires an environmental impact assessment. Guidance to EIA practitioners on different approaches that can be used to establish the risk of significant effects on the environment can be found in the Guidance for scoping⁵⁹ and on the preparation of the EIA report⁶⁰.

However in all cases, as mentioned in Section 2.2.2, Member States have to ensure that they implement the EIA Directive in a manner which fully corresponds to its requirements, having regard to its fundamental objective which, as is clear from Article 2(1), is that, before development consent is given, projects likely to have significant effects on the environment

⁵⁶ The proposed project was for the modification of the airport's infrastructure, the construction of a control tower, new runway exits and aprons, and work to restructure and widen the runways without altering their length.

⁵⁷ The approach was also confirmed Case C-275/09, Brussels Hoofdstedelijk Gewest and Others, and Case C-244/12, Salzburger Flughafen.

⁵⁸ By analogy, Case C-411/17, Doel, paragraph 78.

⁵⁹ https://ec.europa.eu/environment/eia/pdf/EIA_guidance_Scoping_final.pdf (this document does not reflect the official opinion of the Commission, is not binding for the Commission and is not being endorsed by this notice).

⁶⁰ https://ec.europa.eu/environment/eia/pdf/EIA_guidance_EIA_report_final.pdf (this document does not reflect the official opinion of the Commission, is not binding for the Commission and is not being endorsed by this notice).

by virtue, *inter alia*, of their nature, size or location should be made subject to a requirement for development consent and an assessment with regard to their effects⁶¹.

Annex I contains 16 types of projects with no assigned threshold which can be divided in three groups - nuclear-related projects (Annex I.2(b) and Annex I.3), industrial installations (Annex I.4 , I.6, I.9, I.18(a) and 22) and linear projects such as construction of long-distance railway lines, motorways and express roads (Annex I.7(a) – long distance railway traffic⁶² and I.7(b)).

In case C-411/17, the Court concluded in part 1 of the operative part that the restarting of industrial production of electricity for a period of almost 10 years at a nuclear power station that had previously been shut down, with the effect of deferring by 10 years the deadline initially set by the national legislature for deactivating and ceasing production at that power station, and deferral, also by 10 years, of the date initially set by the legislature for deactivating and ceasing industrial production of electricity at an active power station, measures which entail major⁶³ work to upgrade the power stations in question such as to alter the physical aspect of the sites, constitute a ‘project’, within the meaning of the EIA Directive, and in principle an environmental impact assessment must be carried out with respect for that project prior to the adoption of these measures.

By analogy, changes or extensions to Annex I projects with no assigned threshold which by virtue of, *inter alia*, their nature or scale, present risks that are similar, in terms of their effects on the environment, to those of the original project itself, shall be subject to an assessment.

3.4 Annex II of the EIA Directive – Project category II.13 (a)

Annex II.13(a) - Any change or extension of projects listed in Annex I or this Annex, already authorised, executed or in the process of being executed, which may have significant adverse effects on the environment (change or extension not included in Annex I).

The provision refers to any change or extension, which may have significant adverse effects on the environment.

The screening of projects falling in this category is to be done in accordance with the detailed requirements and criteria contained in Article 4, Annex IIA and Annex III of the EIA Directive. Article 4(3) requires that the competent authorities consider relevant criteria when deciding whether EIA is needed, i.e. the characteristics of projects (including the size and design of the whole project), the location of project and the type and characteristics of the potential impacts. These criteria are listed in Annex III to the EIA Directive. The competent authority must issue its decision, on whether a proposed Annex II Project is to be subjected to

⁶¹ Cases C-287/98, *Linster*, paragraph 52; C-486/04 *Commission v. Italy*, paragraph 36; C-215/06, *Commission v. Ireland*, paragraphs 49.

⁶² This category consists of a threshold and non-threshold project types.

⁶³ Case C-411/17, *Doel*, paragraph 79.

the EIA procedure or not, based on the information provided by the developer in accordance with the detailed requirements in Annex IIA (including the description of the physical characteristics of the whole project). The authority is also required to take any other relevant assessments, carried out on the effects on the environment pursuant to other EU legislation than the EIA Directive, into account. The screening decision has to be justified, made publicly available (Article 4(5)) and be subject to review as set out in the case law⁶⁴. Finally, the competent authority must make its decision on whether EIA is required or not within the time period specified in Article 4(6).

The EIA Directive does not provide a definition for “significant adverse” effects. The general meaning of “significant” describes how notable or important effects can be. “Adverse”, on the other hand, describes that these effects are unfavourable or harmful. In this respect, the criteria listed in Annex III of the EIA Directive provide a general guidance which can serve as a suitable framework to determine the significance of adverse impacts.

As already pointed out in Section 2.1, when determining whether changes or extensions of certain Annex I and Annex II projects should be subject to an assessment, the competent authorities should take into account the fundamental objective of the EIA Directive, that is, before consent is given, projects likely to have significant effects on the environment by virtue, *inter alia*, of their nature, size or location should be made subject to a prior assessment with regard to their effects as well as its wide scope and broad purpose.

4 Application of the EIA Directive to changes and extensions of Nuclear Power Plants

Introduction

The EIA Directive lists nuclear power stations⁶⁵ and other nuclear reactors including the dismantling or decommissioning of such power stations or reactors under point 2(b) of Annex I. Additional project categories in point 3 (a) and (b) of Annex I include installations for production and enrichment of nuclear fuel or processing, storage or disposal of irradiated nuclear fuel or radioactive waste. In the light of the latest jurisprudence of the Court related to the nuclear sector, the purpose of this section is to explore when and how the environmental impact assessment procedure applies to the changes to or extensions of existing nuclear category projects.

This guidance also takes account of the latest developments in this field in the framework of the Espoo Convention on the transboundary environmental impact assessment and presents them in the light of the provisions of the EIA Directive and the latest jurisprudence of the CJEU. In particular, in December 2020, the Parties to the Espoo Convention adopted a Guidance on the applicability of the Convention to the lifetime extension of nuclear power

⁶⁴ Case C-570/13, paragraphs 44 and 50.

⁶⁵ For the purposes of this guidance the term “nuclear power stations” is equivalent to the term “nuclear power plants”.

plants⁶⁶. Such extensions can also constitute changes or extensions of projects under the provisions of the EIA Directive and hence are relevant for the present guidance document.

Terminology

Whilst certain terminology used in the EIA Directive and the Espoo Convention is not identical, the concepts are interlinked and the Directive should be interpreted in the light of the Espoo Convention. For example, while the EIA Directive provides a definition of the term 'project', the 1991 Espoo Convention uses the term 'proposed activity'. Regarding the EIA Directive's concept of changes and extensions, the Espoo Convention covers new or planned activities as well as "any major change to an activity". As noted in Section 3.2., the EIA Directive does not define the terms "change or extension" of existing projects; similarly, the Espoo Convention does not define what a "major change" to an activity is. Despite the difference in terminology, there are similarities in substance.

Similarly in terms of terminology the continuation of the operation of the plant beyond the initially set operating lifetime can be referred to by a multitude of terms, depending for example on the licensing regime and regulatory framework. This way we can refer to a lifetime extension of the operation, a continued or long term operation⁶⁷, etc.

The Espoo guidance uses the term "lifetime extension" of NPPs in a pragmatic way, based on a common understanding of the term among the parties and provides description of most common situations in this respect. The present guidance also refers to the term "long term operation", which is a term used generally by the European Commission and the CJEU (and other international fora, for example the International Atomic Energy Agency (IAEA)).

EIA Directive and Euratom legislation

The EIA Directive is based on the Treaty on the Functioning of the European Union (TFEU). As the CJEU stated in its recent case law, "*the Euratom Treaty and the TFEU have the same legal value, as illustrated by Article 106a(3) of the Euratom Treaty, according to which the provisions of the EU Treaty and the TFEU are not to derogate from the provisions of the Euratom Treaty. [...] Since the Euratom Treaty is a sectoral treaty directed at the development of nuclear energy, whereas the TFEU has much more far-reaching aims and confers upon the European Union extensive competences in numerous areas and sectors, the rules of the TFEU apply in the nuclear energy sector when the Euratom Treaty does not contain specific rules*".⁶⁸ Therefore, the Euratom Treaty does not preclude the application in

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https://unece.org/sites/default/files/2021-02/Guidance_on_Conventions%20applicability_to_LTE%20of%20NPPs_As%20endorsed%20and%20edited.pdf

⁶⁷ Long term operation of a nuclear power plant is operation beyond an established time frame defined by the licence term, the original plant design, relevant standards or national regulations. (Ageing Management and development of a Programme for Long Term Operation of Nuclear Power Plants, IAEA Specific Safety Guide SSG-48, IAEA 2018).

⁶⁸ See paragraph 32 of the judgment of 22 September 2020, Austria v Commission, C-594/18 P (ECLI:EU:C:2020:742).

that sector of the rules of EU law on the environment and the EIA directive applies to nuclear power stations and other nuclear reactors.⁶⁹

In any case, the Euratom Treaty and the EIA Directive are applicable in parallel. Art. 37 Euratom Treaty includes specific provisions on the safety and protecting against ionising radiations, including radioactive contamination of the water, soil or airspace. The EIA Directive requires that for a project likely to have significant effects on the environment, the direct and indirect significant effects on the population, human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage and the landscape as well as the interaction between these factors are identified, described and assessed in an appropriate manner.

When applying the provisions of the EIA Directive, the competent authorities have to take into account the ‘*effet utile*’ of the procedures provided for by the Euratom Treaty, as well as the specific set of rights and obligations conferred and imposed on both the Commission and the Member States under the Euratom Treaty⁷⁰.

4.1 Examples of works or physical interventions related to changes or extensions to the Nuclear Power Plant project category

The EIA Directive does not define further the term “changes or extensions to existing projects”, nor does it provide examples of such. As stated in previous sections, under the case-law of the Court, the presence of works or other physical interventions is a prerequisite for the identification of a project in the sense of the Directive. In the absence of a more detailed definition, this guidance identifies and groups illustrative examples of different possible works or physical interventions at a NPP, involving upgrades, modifications or replacements of equipment and systems that may take place at a plant.

The number and complexity of the technical systems installed at a NPP is very high and it would be impractical to try to list all the different possible interventions. However, the examples of the works or physical interventions implemented at NPPs leading to modifications or replacements of plant structures, systems and components can be summarised as the following three categories:

- *Improvement of plant performance/economics*

As the reason for building and operating NPPs is to generate electricity and to make a profit from its sale, NPP licensees have an incentive to improve the performance of the plant in terms of its electricity generating capability or by reducing its operating costs. Plant improvements that can reduce maintenance requirements or manual operations, among others, will contribute to reducing operating costs. Increases to the amount of

⁶⁹ See paragraphs 41 and 43 of the judgement of 22 September 2020, Austria v Commission, C-594/18 P (ECLI:EU:C:2020:742).

⁷⁰ See, inter alia, Chapter 3 “Health and Safety” of the Euratom Treaty, as well as paragraphs 40-41, 43 of the Court judgment of 22 September 2020, Austria v Commission, C-594/18 P (ECLI:EU:C:2020:742).

electricity generated are mainly obtained by increasing the reactor power generating capacity or reducing its downtime. Related plant upgrade projects may include turbine, generator, transformer, condenser refurbishment or replacement; changes to fuel design (e.g. higher enrichment) to increase core thermal power or increase fuel residence time in the core (leading to fewer/shorter refuelling outages); changes in the water chemistry regime (e.g. to decrease the generation of corrosion products); refurbishment of selected Balance-Of-Plant systems to achieve higher efficiency of the caloric cycle; modernisation of control systems and human-machine interfaces (e.g. the main control room) to achieve higher plant reliability and availability; etc. These modifications can be implemented at any time during plant lifetime.

- *Maintenance of the condition of the plant in accordance with its technical specification/licensing basis*

Works or physical interventions performed at a NPP for the purpose of maintaining the condition of the plant in accordance with its technical specification or licensing basis can range from routine maintenance (for example installation of spare parts), through major refurbishments of systems, structures and components, to component replacements, including major components such as steam generators, reactor pressure vessel heads, control rod drive mechanisms or reactor internals. Component replacements may be required due to ageing, wear or damage, or due to obsolescence (e.g. replacement of ageing analogue I&C systems with modern digital systems). In many cases, these are like-for-like replacements, although some may bring improved safety or reliability from improved design or use of more modern technology.

These kinds of works may be necessary implemented at any time during the lifetime of a nuclear power reactor⁷¹.

- *Safety improvements*

Safety improvements typically address issues identified as part of the process of continuous improvement of nuclear safety, for example through periodical safety review (PSR) or operating experience feedback. Such improvements may be necessary at any time during the lifetime of the plant.

Typical examples of such safety improvements might include additional alternative construction of new facilities necessary for the continued operation of the NPP; electrical power supplies/generators; filtered containment venting; installation of systems to manage the hydrogen generated during severe accidents (e.g. passive autocatalytic recombiners and/or H₂-burners); strengthening/qualifying systems, structures and components for higher seismic resistance; additional diverse core cooling circuit or other safety system; installation of an alternative ultimate heat sink (e.g. a cooling tower) or introduction of additional cooling water acquisition means

⁷¹ Those interventions are not necessarily linked with an long term operation (LTO) process, even if an extended operational lifetime would not be possible had the components not been replaced (for example, a decision to extend the operational lifetime of a NPP after the expiry of its design life of 40 years may not have been possible had the steam generators not been replaced after 30 years of operation).

(e.g. wells); primary circuit overpressure protection systems; increased flooding protection (for example new dykes, modifications to drainage or similar works to cope with higher flood levels); modifications to water chemistry control; additional fire detection and protection measures; etc.

The examples of works or physical interventions set out in the three categories above may occur individually or in combination and should be considered on a case-by-case basis, in line with the provisions of the EIA Directive and the CJEU case law. Depending on their nature or scale in the respective case, if these interventions qualify as a changes or extensions to a “project” within the meaning of the EIA Directive, they may trigger either an EIA (Annex I point 24) or a screening (under Annex II point 13(a)); in certain cases, they may fall outside the scope of the EIA Directive. It is for the competent authorities to assess if any works represent a project according the EIA Directive and how they should be considered based on the principles of the EIA Directive.

4.2 Authorisation of changes or extensions of NPP projects

All NPPs are subject to an authorization regime and their construction and operation are only possible on the basis of a decision issued by a competent authority. The approach to authorising the operation of NPPs in Member States differs, notably, as authorisations for such operation are given either for a specific time-limited authorisation term (for example 10 years) or for an indefinite duration.

Once in operation, NPPs undergo continuous safety assessments, monitoring (including environmental monitoring) and inspections throughout their entire lifecycle overseen by the relevant competent authority/authorities. The competent authorities are also responsible for verifying that the operation of NPPs complies with the conditions of the relevant authorization and that the operators take any required action to ensure this compliance and nuclear safety⁷². Depending on the specific national procedure, the operator under the control of a competent authority has to carry out additional assessments and evaluate the operation of a NPP at various points, inter alia, in the context of a periodic safety review, thematic reviews (external hazards, specific operating experience feed-back) or an extension of operating lifetime⁷³. Such considerations would most likely include the question of whether the plant will be allowed to continue its operation unchanged (or without any major changes); whether an intervention,

⁷² Directive 2009/71/Euratom of 25 June 2009 (OJ L 172, 2.7.2009, p. 18–22), as amended by Directive 2014/87/Euratom of 8 July 2014 (OJ L 219, 25.7.2014, p. 42–52), establishing a Community framework for the nuclear safety of nuclear installations . The general principle of the continuous improvement requirement is that the operator, under the supervision of the national safety authorities, implement, on a continuous basis all identified reasonable safety improvement. This approach is complemented by inspection, specific regular safety analysis (like stress test, human intervention...) or periodical safety review which review in depth the safety cases basis.

⁷³ Originally NPPs were typically designed for a specific operating lifetime (for example 30 to 40 years for the so-called generation II nuclear power plants that are operating today, and many of which are approaching or have already passed their original design lifetime). This initial lifetime can be influenced by many factors (for example continuous maintenance and replacement of components) and it is common for the plant to operate beyond this original lifetime, based on a systematic and comprehensive demonstration that it is safe to do so.

such as measures related to improving nuclear safety, are required in order for the operation to continue; whether the plant has to be definitively shut-down (e.g. if the necessary safety upgrades cannot ultimately be implemented or if the operator deems that the implementation of such measures is not justified based on his future operation strategy).

As a consequence of the full framework of inspections, safety evaluations and the principle of continuous improvement under the Nuclear Safety Directive, safety upgrades are regularly identified and their implementation is planned in due time. Usually, safety upgrades fit and comply with the conditions of the existing authorisation to run a NPP (commonly grouped in the license of the NPP).

If the changes required constitute a project within the meaning of the EIA Directive and have already been assessed by an earlier EIA, that assessment will not have to be repeated, unless the circumstances have changed in the meantime (see below section 4.4).

The authorities of the Member States have the responsibility to assess what acts in their national legislation constitute a development consent on change or extension of operating lifetime of NPPs, i.e. the decision giving right to the operator to proceed with the project – to ensure that the provisions of the EIA Directive are met/complied with (to this end see Section 2.2.2).

What counts when determining what is such a development consent is not the title (e.g. “license” or “permit”) but rather the authorizing function with regard to the rights or duties of the operator.. For example internal procedures or considerations of a competent authority not followed by an authorization to proceed with works would therefore not be considered as a development consent in terms of the EIA Directive.

4.2.1 The specific cases of lifetime extension (LTE) and long term operation (LTO)

The present guidance addresses all types of changes and extensions. LTE and LTO are specific cases. Theoretically, both could occur without works but, in practice, in the Members States of the EU, it can be expected that they are accompanied by works.

The Guidance on the applicability of the Espoo Convention to the lifetime extension of nuclear power plants provided useful examples and factors to take into account.

The example of the Periodic Safety Review

Operators may use ongoing processes to identify the existence of a project and the need for a development consent in the sense of the EIA Directive. The NPPs within the EU are subject to specific nuclear safety review regime, in line with the relevant Euratom legislation, called also a periodic safety review (PSR). Article 8c of Directive 2009/71/Euratom⁷⁴ requires from the operator to “*re-assesses systematically and regularly, at least every 10 years, the safety of the nuclear installation*”. The PSR “*aims at ensuring compliance with the current design basis*”

⁷⁴ Directive 2009/71/Euratom (OJ L 172, 2.7.2009, p. 18–22), as amended by Council Directive 2014/87/Euratom of 8 July 2014 (OJ L 219, 25.7.2014, p. 42–52)

and identifies further safety improvements by taking into account ageing issues, operational experience, most recent research results and developments in international standards". Hence, the PSR is an in-depth review, which shall identify and evaluate the safety significance of deviations from applicable current safety standards and internationally recognised good practices taking into account operating experience, relevant research findings, and the current state of technology. This process contributes to the assessment of the capacity of the NPP to continue operation in a safe manner and further on to improve the level of safety. Based on an analysis of the operator's review results, the competent authority can for example authorise the continued operation of the plant up to the end of the next periodic safety review cycle (usually 10 years).

It is important to note that due to its nature and purpose, the PSR itself is in general not *per se* a decision on an extension or change of the operating regime (e.g. LTO). However, in certain cases the findings of the review may lead to issuance of a decision by a competent authority, in order to implement the findings of that review (for example, the need of safety improvements at the plant before continuing its operation or in parallel with its continued operation). Also, in some cases, a PSR is used in support of the decision-making process for a licence extension or renewal or can be part of a multistage decision-making procedure (see also Section 2.2.2). However, a periodic safety review does not as such require an EIA.

If the outcome of the PSR results in works, they may require an EIA and development consent where they constitute a change or extension in the sense of Annex I point 24 of the EIA-Directive, or where they constitute a change or extension in the sense of Annex II point 13(a) the EIA-Directive and Member States have determined, in accordance with Art. 2(1) and 4(2) of the EIA Directive that an EIA is needed.

4.3 Guiding principles for assessing changes or extensions of NPP projects in the light of the Doel ruling

As stated in Section 3.3, the Court concluded that the EIA Directive must be interpreted as meaning that restarting or deferring the shut-down of a nuclear power station⁷⁵, each for a period of 10 years ("measures"), measures which entail works costing approximately EUR 700 million⁷⁶ to upgrade the power stations in question such as to alter the physical aspect of the sites, constitute a 'project', within the meaning of that directive, and an environmental impact assessment must, in principle, be carried out with respect to that project prior to the adoption of those measures⁷⁷. To arrive to that conclusion, the Court had held that the nature of the works⁷⁸ is such as to alter the physical aspect of the sites in question, within the

⁷⁵ Under the Belgian Law, the nuclear power stations had to be deactivated 40 years after the date on which they were brought into service for industrial purposes.

⁷⁶ As regards the amounts involved, it is worth recalling that investments of approximately EUR 700 million were at stake in the Doel case. Beyond that, the Court has stressed that the scale or nature of works are decisive.

⁷⁷ C-411/17, Inter-Environnement Wallonie and Bond Beter Leefmilieu Vlaanderen, EU:C:2019:622, para. 94.

⁷⁸ Ibid, paragraph 66 - [...] upgrading the containment structures of the Doel 1 and Doel 2 power stations, renewal of the spent fuel pools, building a new pumping station and adaptation of the base to offer better protection to the power stations against flooding; [...] work would not be limited to improvements to existing

meaning of the Court's case law, and therefore the measures cannot be artificially dissociated from the works to which they are inextricably linked when assessing whether they constitute a project within the meaning of the Directive. It therefore held that the measures and the works together constitute a single project within the meaning of that provision⁷⁹.

Paragraph 78 of the *Doel* ruling establishes the key principle triggering the obligation to conduct an EIA in case of change or extension of Annex I projects. The measure of assessment of relevant criteria is the risk in terms of environmental effects. If the risk carried by the change or extension of the project is comparable to risk presented by the original project category itself, the project falls under point 24 of Annex I to the EIA Directive. The wording of the judgment suggests that the nature or scale of the change or extension to a project are non-exhaustive examples for criteria to assess whether the environmental risks are similar to those of the original project and do not necessarily have to be met cumulatively.

Therefore, it can be concluded from the judgment that measures which have the effect of extending, by a significant period, the duration of consents of NPPs to produce electricity and which entail major renovation works inextricably linked to the measures to upgrade/modify the power stations in question such as to alter the physical aspect of the sites, fall within the scope of point 24 of Annex I to the EIA Directive, as they present risks that are similar, in terms of their effects on the environment, to those when the power stations were first put into service. This is in particular the case where the long-term extension of the operating time and the renovation works are of a similar importance as those in Case C-411/17.

Apart from the abovementioned guiding principle, the *Doel* ruling has confirmed other important principles of the EIA Directive, which are also relevant when applying the Directive to changes and extensions of NPP (see above the sections on the assessment of the overall effects of a project and multistage decision-making).

4.4 Determination of the risk and the need for an EIA

While the EIA Directive does not provide criteria for assessing the risk of works qualifying as changes or extensions of projects nor offers examples of such works qualifying as changes or extensions for Annex II projects, it provides criteria to determine whether they should be subject to an environmental impact assessment (selection criteria referred to in Article 4(3) of the EIA Directive and requirements of Annex II.A and Annex III to the Directive, as presented in Section 3.4). These **selection criteria** can therefore be used to determine the possible risk and subsequently the need for an EIA. Where works or physical interventions are of a scale that does not present a similar risk to the environment as the activity itself but constitute changes or extensions of a NPP already authorised, executed or in the process of being executed which may have significant adverse effects, these fall under point 13(a) of Annex II of the EIA Directive and are subject to a screening.

structures, but would also involve the construction of three buildings, two to host ventilation systems and a third as a fire protection structure.

⁷⁹ Ibid, paragraph 71.

In that regard, the **Espoo guidance on the lifetime extension of nuclear power plants should also be taken into account**. Under the Espoo Convention, one of the parameters that has to be considered in order to subject a modification of an activity to a transboundary impact assessment is its classification as a major change of an activity. The Espoo guidance therefore presents a non-exhaustive list of illustrative factors⁸⁰ that may be relevant to be considered by the competent authorities when they determine whether a lifetime extension amounts to a major change. These factors are the following:

- Increased use of natural resources as compared to the limits envisaged in the initial licence;
- Increased production of waste or spent fuel as compared to the limits envisaged in the initial licence;
- Increased emissions, including of radionuclides and discharge of cooling water, as compared to the limits envisaged in the initial licence;
- Extent of upgrading works and/or safety upgrades or improvements, in particular those requiring significant alteration of the physical aspects of the site or substantial improvements arising from ageing components and/or obsolescence;
- Changes in the surrounding environment, such as those arising from climate change;
- Climate change adaptation and mitigation measures.

Another important factor to consider is whether the lifetime extension in question, taking account of its specific features, may cause significant adverse transboundary environmental impact⁸¹.

The **possible impacts of the works or physical interventions on the environmental factors** are another selection criterion to determine the possible risk and the need for an EIA. According to Article 3 of the EIA Directive, a variety of environmental factors⁸² have to be taken into account when a project is subject to a screening or an EIA. Different environmental factors may be affected in a different scale and duration depending on the possible changes or extensions to a NPP to allow its operation (to this end – see the categories of works described under Section 4.1).

Safety improvements to NPPs and works to maintain the condition of the plant in accordance with its technical specification/licensing basis in the majority of cases are intended to have overall positive environmental effects because the reason behind their implementation is to reduce the risk of an accident, reduce normal operational emissions or reduce radioactive waste generation. Most of these improvements are undertaken to achieve reduced radiological

⁸⁰ Espoo Guidance, Annex II.

⁸¹ Espoo Guidance, part C, Lifetime extension as a major activity.

⁸² Population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage, landscape as well as the interaction between these.

or other emissions to the environment in normal operation or in case of accidents, or both, and/or reduce occupational dose uptake of the workers in long term.⁸³

Improvements however may also have adverse environmental impact during plant normal operation such as increased use of resources like water or energy, or conventional emissions, e.g. from testing or occasional operation of additional emergency backup diesel generators. Other safety improvements could also potentially have an impact on the environment under specific conditions, for example an improvement aimed at enhanced flooding protection (e.g. new dykes, modifications to drainage or similar works) could have the potential to alter the natural flow of water courses during flood conditions, which may have an impact on the extent of flooding downstream where the water course may pass through or close to populated areas, or impact sites of special significance. Moreover, it cannot be excluded that some safety improvements may result in adverse environmental impacts during construction or installation phase (e.g. noise, nuisance, temporarily increased radiological and/or conventional waste generation, industrial/radiological emissions, use of resources such as construction materials, water, energy).

Changes to water chemistry control⁸⁴ in nuclear reactors are important from at least six different perspectives: material integrity, plant radiation levels, deposit build-up, fuel performance, environmental impact and safety. Such changes may bring improvements, for example, to safety, to component ageing degradation, or may allow better control of or reduce corrosion rates (which may also improve radiological dose uptake by workers and simplify maintenance). However, a change to one chemistry based parameter to improve safety can be to the detriment of another hazard or risk and careful balance is required. Consequently, while safety improvements are undertaken to make an overall positive environmental impact, some adverse environmental impacts are also possible.

Works or any physical interventions related to the improvement of performance of power units have a greater potential than safety improvements for significant environmental impact of the plant, both radiological (due to a different core radiological inventory for example) as well as other impacts (for example increased flow or temperature of cooling water discharges).

4.5 Benchmarking in implementing the EIA Directive in the nuclear field

Benchmarking exercises were launched on a regular basis in the nuclear safety field more than 20 years ago and provided successful outcomes in harmonising the practical implementation of safety principles. Their key role in ensuring a high level of safety,

⁸³ It is to be noted that any change or extension to a NPP having the potential for increased radiological emissions would trigger a notification to the European Commission under Article 37 of the Euratom Treaty, which requires that each Member State is to provide the Commission with such general data relating to any plan for the disposal of radioactive waste in whatever form as will make it possible to determine whether the implementation of such plan is liable to result in the radioactive contamination of the water, soil or air of another Member State.

⁸⁴ Water chemistry control is essential for the safe operation of a nuclear power plant and may be used to minimize the harmful effects of chemicals, chemical impurities and corrosion on plant structures and components for its extension of operating lifetime.

harmonised at EU level, was endorsed by the Nuclear Safety Directive⁸⁵, in particular through the provision concerning the topical peer reviews.

The implementation of this guidance and of the EIA Directive could be fostered by initiating such a benchmarking exercise by Member States, on a voluntary basis, as regards changes and extensions of NPP. The benchmarking could result in common methodologies at EU level and facilitate practical implementation in specific cases. For instance when considering changes or extensions to NPP, and in the light of the Section 4.2, benchmarking could be relevant in order to assess whether the radiological releases during normal operation or in case of accidents have changed, and to which extent it implies a need to review any existing EIA (if such an EIA was performed). Such a benchmarking exercise may also help to evaluate whether the changes and extensions of projects would create additional risks of impact to neighbouring Member States and identify to which Member States.

5 Summary of the main points

- Where construction works or interventions, that involve alterations to the physical aspects of the original projects listed in Annex I or II of the Environmental Impact Assessment Directive, meet the requirements of Annex I point 24 or Annex II point 13(a) thereof, they constitute “projects” within the meaning of the EIA Directive and be subject either to a screening or and EIA.
- Those projects that are likely to have significant effects on the environment shall be made subject to a requirement for a development consent.
- A change or extension of projects in the sense of Annex I point 24 to the Environmental Impact Assessment Directive, pre-suppose that there are risks similar, in terms of their effects on the environment, to the original project. In that respect, extending duration of consents of original projects by significant periods of time as well as the significance of works inextricably linked to the scale of changes or extensions of projects are key criteria that should be used by competent authorities.

⁸⁵ Directive 2009/71/Euratom of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations (OJ L 172, 2.7.2009, p. 18–22), as amended by Council Directive 2014/87/Euratom of 8 July 2014 (OJ L 219, 25.7.2014, p. 42–52).