



Authority for Nuclear Safety and
Radiation Protection

Guideline

for the Pre-Licensing Phase for New-Build Nuclear Reactors

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I

Introduction

1 Background, objective and scope of this guideline

Background

The government's 2024 Framework Coalition Agreement describes its ambitions for the realisation of four new nuclear power plants, while also noting the possibilities for Small Modular Reactors. Additionally, the field of Small Modular Reactors is currently under rapid development both in the Netherlands and internationally.

These ambitions have led to the development of this guideline. The ANVS anticipates that the pre-licensing phase to prepare licensing applications for these new initiatives will take place in the near future. That makes it important for license applicants, the ANVS and the public to have an accurate understanding of the procedures to be followed, including in the pre-licensing phase.

This guideline also addresses previous recommendations. The IAEA's 2023 IRRS report includes the suggestion (S3) that "The ANVS should consider formalizing the pre-licensing step for new facilities and activities in its management system." In addition to this suggestion, the evaluation report of the Nuclear Energy Act (December 2023) recommends providing guidelines on the pre-licensing phase. This report was commissioned by the Ministry of Infrastructure and Water Management due to the new developments.

This Guideline provides an English translation of the "Handreiking vooroverleg nieuwbouw kerncentrales 2025" of the ANVS, as published on December 18th 2025. Where accidental differences between the two guidelines emerge, the Dutch version is leading.

Objective

The ANVS created this guideline with the following goals:

- Facilitation of the pre-licensing phase for large, complex license applications for new nuclear initiatives,
- Providing clarity about the activities included in the pre-licensing phase and the ANVS' expectations of license applicants in this regard,
- To define conditions which should be met by the license applicant in order to enter the pre-licensing phase.

Guidelines are informative documents that the ANVS publishes for stakeholders such as license holders or license applicants, that set the ANVS expectations on a given topic. Licensees and license applicants can use such guidelines as a starting point in drawing up their own documents and use them to inform their practices. Guidelines are not part of license conditions or legislation and are not legally binding.

This guideline is primarily intended for license applicants of new nuclear reactors. They are also made available on the ANVS website to give other stakeholders an understanding of the pre-licensing process.

Scope

The scope of this guideline is limited to the 'pre-licensing' phase. That does not include the preliminary 'orientation phase' or the licensing phase following an application's submission. It does address the interfaces with these phases. For more information about the licensing phase, see the ANVS 2025 guideline on licensing available in Dutch ("Handreiking vergunningverlening ANVS 2025").

The scope is limited to new nuclear initiatives; projects to build new nuclear reactors. Before a new nuclear reactor can be built, its safety must be demonstrated. Due to the amount, time intensiveness and complexity of the documentation and reviews required, the pre-licensing phase for a new build is of a different category than for the amendment of an existing nuclear facility's license or for a license for radiation applications. Going forward, the ANVS does intend to provide guidelines for these pre-licensing phases as well.

Changes in the pre-licensing and licensing phase

To develop this guideline, the ANVS evaluated the procedure for the pre-licensing phase. This led to the following changes in the pre-licensing phase for new nuclear initiatives:

- The license applicant makes a request to enter the pre-licensing phase
- The license applicant fulfils the conditions to enter the pre-licensing phase
- The ANVS will publish an initiation document setting out the practical agreements between the ANVS and the license applicant
- A PSAR is submitted together with the license application. A publishable version of the PSAR will be made available for public inspection along with the license application. An additional separate safety report, such as current facilities have, will no longer be required.

2 What is the pre-licensing phase?

While not legally mandatory, it is customary and advisable for license applicants of large and complex licensing procedures to consult the ANVS before applying for a Nuclear Energy Act license. This is due to the complexity of nuclear facilities and the required documentation, and the relatively short (initial) time limit of six months allowed for the official licensing procedure under the Dutch General Administrative Law Act.

The ANVS 2025 guideline on licensing notes the following in this regard: “In the pre-licensing phase, the license applicant presents its plans and the ANVS provides insight into the assessment frameworks and other requirements for licensing. Ultimately, the pre-licensing phase is intended to result in a draft license application that has been reviewed on all essential points and should be complete and admissible.” At the start of the pre-licensing phase, practical agreements are made, amongst others on organisational aspects.

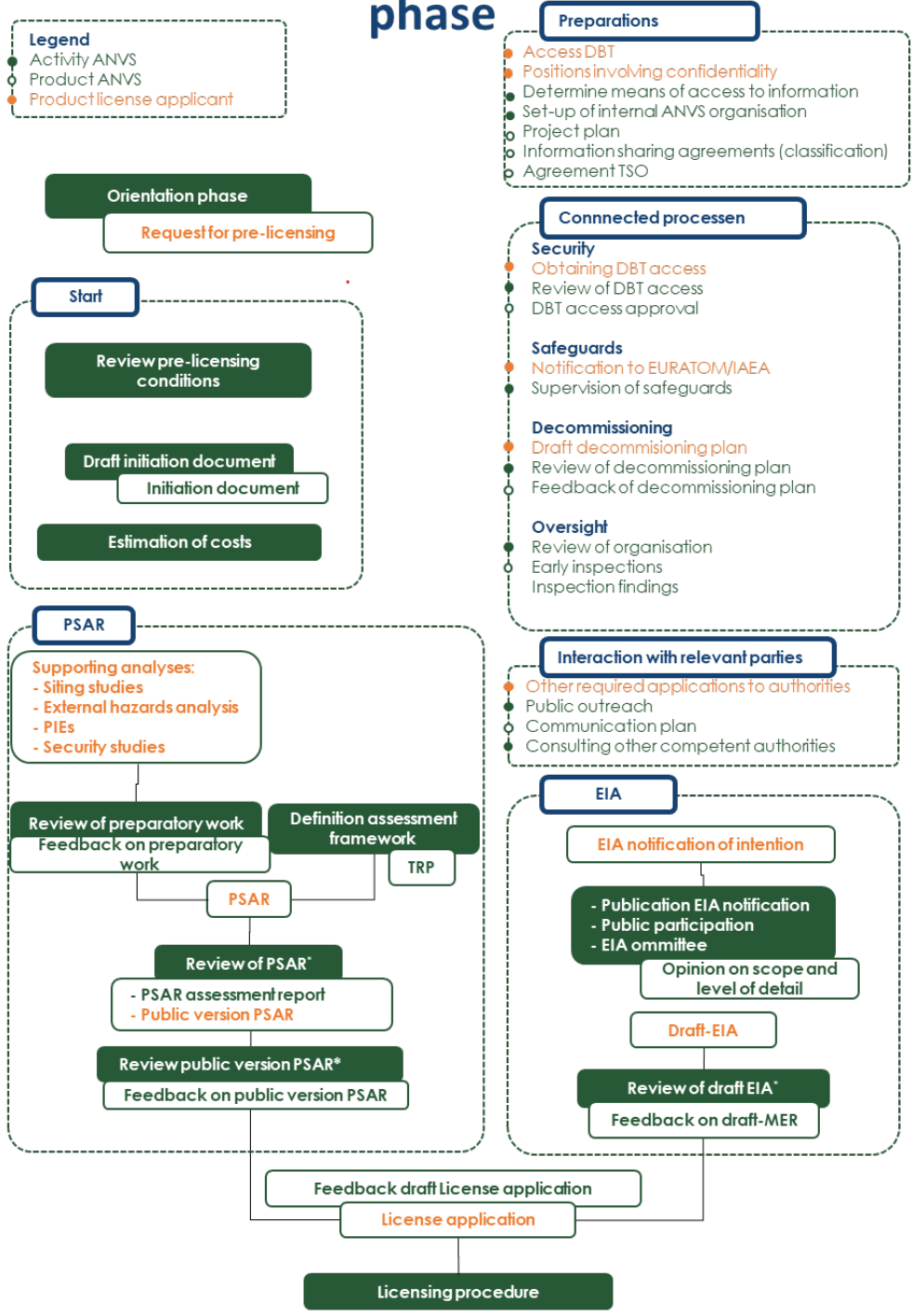
While the pre-licensing phase plays an important role in the preparation for the licensing process, it is an informal phase and does not result in any formal decisions. Statements made by the ANVS during the pre-licensing phase do not guarantee license approval. The license application after the pre-licensing phase, requires review in its entirety, and includes public participation. New insights could still cause the ANVS to change its position at any given moment in the licensing process.

3 Reader’s guide

The pre-licensing phase for new nuclear initiatives can take multiple years and covers a wide range of activities. It is not easily divided into defined stages based on a specific timeline. For this reason, the various sub-activities in the pre-licensing phase will not be addressed in chronological order and have instead been grouped by type. Activities often take place in parallel and can be interdependent. The diagram below, ‘Schematic representation of the pre-licensing phase’, illustrates all these sub-activities, providing an overview of the pre-licensing phase and the contents of this guideline.

Furthermore, not every pre-licensing phase is the same. Factors such as a reactor’s design, the license applicant’s organisation and experience, and the quality of supplied documents will all affect the amounts of effort and time required to complete specific activities. License applicants can also indicate how thoroughly they want the ANVS to review their documentation and which topics they wish to discuss in the pre-licensing phase. This makes it impossible to predict the exact duration of the pre-licensing phase.

ANVS Pre-licensing phase



*The lead times are at least 2 years for the PSAR and 1 year for the EIA. These lead times are strongly dependent on the quality of the documentation supplied.



Guideline

1 Start

1.1 Orientation phase

The phase in which meetings take place prior to the pre-licensing phase is called the orientation phase. These meetings allow the ANVS to provide the potential license applicant with the information needed to prepare for a possible entry to the pre-licensing phase. This can include elaborating on the licensing procedure, interpreting legal and safety requirements and providing additional relevant documentation. An important document in this regard is the Guideline for the Safe Design and Operation of Nuclear installations (VOBK)

The ANVS will also use these meetings to learn more about the initiative and determine whether the pre-licensing phase can start. No agreements are made regarding the use of time and capacity for the orientation phase. Although orientation meetings may lead to the pre-licensing phase, it is not necessarily the case.

1.2 Conditions and request for pre-licensing phase

The license applicant submits a request to enter the pre-licensing phase. This request can be made as soon as the conditions to start this phase are met. The ANVS will review the license applicant's design, location and organisation to determine whether these have been worked out in sufficient clarity and detail. As the ANVS allocates capacity to the process, the pre-licensing phase will only start once the intended project is advanced enough to ensure a productive effort.

Before the pre-licensing phase can start, the following conditions should be met:

1. Design of the nuclear facility: the license applicant has decided upon a specific technology or has drawn up detailed technical user specifications and is in serious negotiations with at least one party that expects to be able to deliver this technology, or alternatively, the designer is the license applicant. At minimum, the following has been arranged:
 - The ANVS has access to the safety-related technical design documentation. This documentation must be of sufficient quality to enable a proper review.
 - The license applicant is capable of answering detailed technical questions regarding the design.
 - The license applicant is capable of making the required modifications to the design to ensure compliance with national or location-specific requirements and characteristics.
2. Location: the license applicant has determined the location.
 - The license applicant is in discussion with the property owner about the property's use, and with the authorities about spatial planning requirements.
 - There is a general overview of the main location-specific characteristics relevant to the safe construction of a nuclear facility.
 - The license applicant has the information required for the procedures to create an environmental impact assessment (EIA). At the start of the pre-licensing phase, this means the information needed to request an Opinion on Scope and Level of Detail (notification of intention).
3. Organisation: the license applicant has the appropriate capacity and knowledge and has arranged the required organisational provisions for the pre-licensing phase. More specifically, this involves:
 - Knowledge of Dutch laws and regulations on nuclear safety, radiation protection, nuclear security and conventional environmental factors
 - Adequate fulfilment of the roles of 'intelligent customer', 'design authority' and 'security expert'
 - The license applicant is a legal entity with whom the ANVS can enter into agreements and has the intent to apply for a license to build the facility.

1.3 Initiation document

Once the license applicant has submitted a request to start the pre-licensing phase, the ANVS may ask for more information or schedule one or more additional meetings with the license applicant. The ANVS will draft an initiation document based on the outcome of the meetings. The initiation document describes the pre-licensing phase at a tactical level. This includes the basis for entering the pre-licensing phase and concrete practical agreements on the scope of the pre-licensing phase, communications between relevant parties and a preliminary assessment framework. The initiation document also contains a general timeline and an overview of practical agreements between the ANVS and the license applicant. Finally, it addresses anticipated future costs. The initiation document is sent to the license applicant. Examples of initiation documents are available on the ANVS website in Dutch (startnotities). In practice, the initiation document will already have been defined in broad lines during the initial orientation phase prior to the pre-licensing phase.

The ANVS will make a public version of the initiation document available on its website. In doing so, the ANVS aims to ensure transparency about the work and procedures that are currently underway. Based on experience, most initiation documents do not contain any sensitive information and can be published, with the names of individuals excluded. The license applicant may also request to leave out specific details before publication. The ANVS will review such requests based on the grounds for refusal specified in the Dutch Open Government Act (see also 2.1, Public information campaigns).

1.4 Pre-licensing costs

Costs made by the ANVS in the pre-licensing phase will be charged as a fixed fee (differing per type of facility) at the time of processing of the actual license application. Section 4(1) of the Fees Decree for the Nuclear Energy Act defines the amount that may be charged for a license to build a nuclear facility. This amount differs depending on the type of facility. The amounts are subject to annual indexation in accordance with the Decree. The date of submission of the license application determines the amount to be charged.

In 2025, these fees were:

- Nuclear reactor for power generation: €954,000
- Nuclear reactor for other purposes: €477,000
- Other nuclear facilities (without a reactor): €318,000

Additionally, costs for external advice are passed on directly and in accordance with Section 9 of the Fees Decree for the Nuclear Energy Act. This is because reviewing technical specifications often requires the support from external subject matter experts. The Fees Decree for the Nuclear Energy Act therefore includes the provision to charge the costs resulting from external expert support to the ultimate beneficiary, the license applicant in this case. Because the exact costs cannot be predicted in advance, there is no fixed fee for these costs. The costs which may be charged are explained below:

- For which activities?
 - These charges relate to external expertise required in the pre-licensing phase and the license application procedure for nuclear facilities. Costs for other ANVS activities and duties (public information campaigns, advice, monitoring) will not be charged in this way.
 - For new nuclear initiatives, the charges will largely be related to the hiring of external experts for the PSAR review.
- In which cases?
 - The charges are for specialist technical knowledge required to adequately review the relevant documents.
 - This must be knowledge to which the ANVS cannot be expected to have access on a permanent basis.
 - It is explicitly not intended to compensate for a lack of capacity.
- Conditions:
 - Based on the 2016 'Maat Houden' government policy, charges must be reasonable. This concerns both the amount of time charged and the hourly rate.
 - The expected costs and their motivation are clarified beforehand as much as possible.
 - The invoice will include a specification of the costs.
 - The decision to charge these costs based on the Fees Decree for the Nuclear Energy Act, is considered a formal decision so that it is possible to object to this decision or to lodge an appeal.

The anticipated additional costs are defined in the initiation document. In the initiation document, the ANVS will provide insight into the expected costs for external advice as much as possible. The license applicant will be informed about updates on these costs throughout the pre-licensing phase.

1.5 License to build and commission in one application

The license to build and the license for the facility's commissioning and operation can be combined. This will only be possible if, when applying for the license to build the nuclear facility, enough details can already be provided about such aspects as the operation, operational organisation and commissioning to enable a proper review and the definition of relevant commissioning and operational requirements at the time of licensing. If the licenses are to be combined, the pre-licensing phase will address both components.

2 Interactions with relevant parties

2.1 Public information campaigns and participation

A communication plan will be drafted at the start of the pre-licensing phase. This plan will give the ANVS milestone for communication planning. For example, the plan may describe when information events are held and how the ANVS will communicate updates regarding the PSAR review progress. The purpose of the communication plan is to clarify which information the ANVS will actively publish during the pre-licensing phase and as part of the official procedural steps. The ANVS cares about ensuring that all relevant target groups are correctly informed. In addition, the ANVS encourages the license applicant to take steps to inform and involve relevant stakeholders and the public in its project.

2.2 Open Government Act

The Dutch Open Government Act regulates the public's access to information held by the government. This Act is concerned with both active publication, access to information at the government's initiative, and passive publication, access provided by the government at another party's request. In view of the relevance of informing the public during the pre-licensing phase, this guideline will address the key points:

- **Public access, unless:** The Open Government Act is based on the principle that all government information should be publicly accessible unless there are valid grounds for refusal. The Act also describes which grounds are considered valid. In case of environmental information, stricter grounds apply. Access to information about environmental emissions cannot be refused.
- **Grounds for refusal:** based on experience, the following grounds are most likely to apply to information about nuclear facilities:
 - **National Safety:** information that could threaten the security of (future) nuclear facilities and thus society, may be redacted. Examples include security measures, specific locations of fissionable or radioactive materials and detailed safety system information.
 - **Confidential operational and manufacturing information:** information about nuclear facilities and their design can offer a competitive advantage. In such cases, the ANVS will weigh the importance of secrecy against the importance of open access. If access to detailed information can lead to damages for a company, this can be a valid ground for refusal.
 - **Privacy:** In principle, names, contact details and signatures of employees and other individuals are removed. An exception is made for the names of people such as directors, whose roles lead them to be known to the public.
- **Submitting a viewpoint by the license applicant or designer:** If the ANVS intends to publish actively or passively information relating to the license applicant or designer, these companies are always given the opportunity to submit their viewpoint prior to publication. The ANVS must take the viewpoint into account in its final decision on whether to (partially) publish. If the license applicant or designer disagrees with this decision, they may submit an objection and petition the court to deny access until there is a ruling.

2.3 Consultation with other authorities

Besides the Nuclear Energy Act license, building a nuclear reactor may also require additional permits, e.g. a water discharge permit for surface water or a permit for construction activities under the Dutch Environment and Planning Act. These permits are not handled by the ANVS but by other authorities such as the Department of Infrastructure and Water Management, the water authority and the municipality. In certain cases, however, the permits' preparation will be coordinated in accordance with the Dutch General Administrative Law Act, or the entries into force may be linked. For more information about other necessary permits and the associated laws and regulations, see also Subsection 2.6 of the ANVS 2025 Licensing Guideline.

The ANVS will consult other authorities in the pre-licensing phase and may also consult with both the applicant as well as these authorities on the licensing procedures or the required information. Regarding the environmental impact assessment, for example, there may be overlap in the information required for the Nuclear Energy Act license and in the information required for the other permits. If coordination is required between the Nuclear Energy Act license and other permits, e.g. the water discharge permit, the ANVS will act as the coordinating authority. This is due to the Nuclear Energy Act license's relatively large scope.

However, this will not hold if the project procedure as referred to in the Environment and Planning Act applies. If a nuclear power plant is larger than 500 MW, its establishment qualifies as a project of national importance. Under the Dutch Electricity Act, it must then follow the project procedure formerly known as the Government Coordination Scheme. In that case, the Minister for Climate Policy and Green Growth will coordinate the preparation of the relevant permits. The minister may also designate other projects as being of national importance. These projects will then adhere to the project procedure as well.

3 Preparations

3.1 Information provision and exchange

During the pre-licensing phase, the ANVS and the license applicant will need to exchange a great deal of information. The license applicant will mainly be providing technical information and explanations, while the ANVS is more likely to be clarifying frameworks and responding to this technical information.

Agreements on the exchange of information are included in the initiation document at the beginning (see 1.3 Initiating document). These agreements will be further elaborated in a later stage. The exact moment this may take place will, among others, depend on the progression of pre-licensing. For example, sharing confidential information or classified information requires more elaborate agreements. Subsection 6.2 addresses security aspects.

Topics requiring discussion and arrangements in the pre-licensing phase:

- Agreements on meetings, meeting structures and contact information.
- Agreements about information sharing with other relevant parties, such as the designer or the ANVS' Technical Support Organisation (TSO).
- Agreements on the classification of information; a document's author is responsible for classifying the information contained therein. The ANVS and the license applicant must agree on the use of classification levels and the associated security of the information. The recipient party is responsible for the handling of documents received.
- Agreements on information exchange methods, e.g. by email, using a secure service or a (shared) platform; different methods may be specified depending on the type or classification of information. It is important to note that the ANVS should not be limited to the consultation of documents on a platform under the license applicant's management during its reviews. Due to obligations regarding the ANVS's archives and traceability of decisions, the ANVS must be able to receive documents, distribute these internally and process them in its own systems.
- Agreements on the designation of information specific export restrictions or dual-use legislation apply; the applicant is responsible for obtaining the required permits to share (foreign) information with the ANVS. The ANVS is responsible for obtaining the required permits if it is sharing information with e.g. a foreign TSO.

These agreements should be established and approved at the correct level within the organisation before the information referred to in the agreements is shared. For certain agreements, it can be necessary to involve information security staff. These relate to the security measures required for the license applicant to be able to receive information about relevant confidential information, see also 6.1.

The above arrangements may be recorded in a procedure or in an agreement. This can be decided in conjunction with the ANVS. The ANVS cannot make agreements that contradict the principles of the Open Government Act (see 2.2).

3.2 ANVS' internal organisation

Once the pre-licensing phase has started, the ANVS will set up its own internal organisation based on the license applicant's planning. This could concern, for example, the composition of the team of experts reviewing preliminary safety documentation or the involvement of the TSO's external experts.

The license applicant should also take into account the following:

- During the orientation phase, the ANVS will already enquire about a general schedule to ensure that its organisation has the required expertise and capacities available. The more detailed the planning and the better the ANVS is informed, the better the ANVS's preparations will be.
- As the ANVS has other statutory duties which may take priority, the availability of personnel in the pre-licensing phase cannot be guaranteed.
- To enable technical discussions and preliminary reviews in the pre-licensing phase, it is vital that the license applicant be sufficiently competent in all relevant areas to act as a worthy counterpart to ANVS's specialists. Designer competence is not a valid replacement for expertise within the license applicant's organisation. Without a qualified counterpart, the ANVS' specialists will not be able to start their work. See 6.1 'Review of license applicant's organisation'.
- The specialists at the ANVS and the TSO will need to familiarise themselves with the design and the approach to safety documentation. The ANVS may ask the license applicant to provide training sessions or courses for this purpose. While this is not mandatory, it will certainly make it easier for the ANVS to do its work efficiently.

4 (Preliminary) Safety Analysis Report

The Safety Analysis Report (SAR) is a document of crucial importance in demonstrating a nuclear facility's safety. The SAR describes how safety is ensured throughout a nuclear facility's lifetime. During the pre-licensing phase for a new nuclear facility, this document is referred to as the Preliminary Safety Analysis Report (PSAR). The PSAR contains all the information required by the ANVS to review the facility's safety. The ANVS uses this document to determine if there is a solid basis for licensing. The license applicant must supply a PSAR to support its application for a license to build a nuclear facility. Updated versions of this document will be required at various stages: A Pre-Operational Safety Analysis Report (POSAR) is required for the commissioning license application and a Final Safety Analysis Report (FSAR) for the operational phase. At an even later date, one last revision will take place for the decommissioning phase.

The license applicant uses the (P)SAR to demonstrate that the nuclear facility meets all the relevant safety requirements as specified in the assessment framework.

4.1 Definition of assessment framework

Before any (preliminary) PSAR reviews can take place, the ANVS must have defined which requirements will be used for the assessment. These requirements are recorded in the assessment framework and reference documents. The ANVS's assessment framework is based on the official criteria laid out in laws and regulations, more specifically in this case:

- Nuclear Energy Act
- Nuclear Facilities, Fissionable Materials and Ores Decree (Bkse)
- Decree on Basic Safety Standards for Radiation Protection (Bbs)
- Safety of Nuclear Facilities Regulations (Rnvk)
- Nuclear Pressure Equipment Regulation
- Basic Safety Standards for Radiation Protection Regulations (Rbs)
- Radiation Protection (Occupational Exposure) Regulations 2018
- ANVS Regulations on Basic Safety Standards for Radiation Protection
- ANVS Regulations on Nuclear Pressure Equipment, Nuclear Security and Decommissioning

Regarding the assessment framework, compliance with current applicable laws and regulations is always required.

These laws and regulations often make use of goal-oriented requirements, offering the license applicant room for interpretation. The ANVS uses the reference documents to determine whether compliance with the assessment framework is being achieved according to the state of the art. The Guideline on the Safe Design and Operation of Nuclear installations (VOBK) is the most important reference document for nuclear safety reviews. The VOBK refers to the IAEA Safety Standards (ISS) and WENRA Safety Reference Levels (SRLs).

The ISS are divided into Safety Fundamentals, Requirements and Guides. Safety Fundamentals define the fundamental safety objective and ten basic principles and are characterised by a high level of abstraction. The Dutch system of legislation, regulations and policies incorporates the IAEA's fundamental safety principles in a general sense. Safety Guides provide recommendations and suggestions on how to fulfil the Safety Requirements. The ANVS Guideline on the Use of International Guides in Assessments (GIGO) describes how the ANVS's uses IAEA Safety Guides and WENRA SRLs in its decision-making process.

This is further explained in the VOBK. The VOBK is publicly accessible, and the orientation phase may include a general explanation of this guideline.

For the technical details of the design, specific design codes (e.g. ASME) and standards (e.g. ISO standards) will apply. Selection of these specific standards is primarily up to the license applicant, who will discuss them with the ANVS. The selected standards will then be included in the reference documents. The Guideline on Conventional Technical Preconditions for Nuclear Facilities ("Handreiking conventionele technische randvoorwaarden voor nucleaire inrichtingen") offers guidelines on conventional safety. According to this guideline, the ANVS's conventional technical preconditions should align with the requirements specified by other legislation. Since January 2024, this involves the Environment and Planning Act and its underlying Decrees. The Guideline on Conventional Technical Preconditions will be adapted accordingly.

The initiation document drawn up by the ANVS defines the relevant assessment framework. It also establishes which portions of the VOBK will apply. Finally, it describes how the other reference documents will be defined. In most cases, this will involve a Technical Review Plan (TRP). The TRP describes the PSAR review process and is specific to the initiative in question. The plan indicates which subsections of the VOBK and which national or international safety standards will be used by the ANVS for the review of each topic. The TRP may be further refined during the pre-licensing phase.

If the applicant has used the listed safety standards, the ANVS considers this a good approach to completing the PSAR and it will generally suffice for compliance with the VOBK and the applicable assessment framework. While the license applicant is not obliged to follow the TRP's division into sections, it must be able to demonstrate that its PSAR addresses all topics included in the TRP. The license applicant may also apply different safety standards than those specified in the TRP, in which case it will need to demonstrate that these standards ensure an equivalent or higher level of safety compared to the TRP. The TRP is provided to the license applicant in the pre-licensing phase. Parts of this TRP may be adapted in certain cases in consultation between the license applicant and the ANVS, preferably as early as possible. Elements that aren't relevant can be removed and other elements can be added to address facility-specific requirements.

The license applicant may also apply reference documents on its own initiative, in whole or in part. The ANVS must have confirmed these choices in a letter. The license applicant will therefore need to provide the ANVS with information about the design and the associated safety analyses during the pre-licensing phase. This information must be detailed enough for the ANVS to either define relevant requirements or grade existing requirements.

Are reference documents fixed for the duration of the entire pre-licensing phase?

To provide both the license applicant and the ANVS with more certainty, it is important to define and freeze specific versions of reference documents. Especially for the license applicant, this prevents unpleasant surprises in the course of the project. The ANVS's reviewers are also assured of greater clarity and guidance.

In case of interim changes to the main reference document, the VOBK, the ANVS and the license applicant will discuss which of these changes to include. This will be confirmed in a letter.

Reference documents cannot be frozen for an unlimited duration. Some pre-licensing phases can take a very long time, over ten years, in which case it can be desirable to update the reference documents at five or ten-year intervals. The length of these intervals will also depend on the technology's maturity. For new technologies, shorter intervals may be indicated. Implementation of ISS and SRL revisions is generally a slow process, allowing changes to be anticipated far in advance.

However, reference documents may also be updated more rapidly in response to relevant operational experiences, such as malfunctions and accidents, in the Netherlands or abroad. The letter defining the reference documents also specifies the associated intervals for such updates.

4.2 Preparatory work

To achieve a PSAR suitable for review, it can be useful for the license applicant to provide the ANVS with the results of certain studies and analyses at an earlier stage. That includes the Siting Studies and Design Basis Hazards (inventory of external hazards), as these are important input for the facility's design.

Examples of other topics on which the license applicant and the ANVS will need to agree beforehand: Completion of Safety Objectives, Security and Design Basis Threat assessments, earthquake resistance, aircraft impact, radioactive waste management and the list of postulated initiating events (PIE). These are all items which can heavily affect the design and safety studies. Furthermore, agreeing on them in good time ensures that the ANVS will be well-prepared to start the PSAR review process. A possible approach to facilitating such discussions with the ANVS is the use of Position Papers. These support an exchange of views and can make it easier to come to an agreement.

Another topic of discussion is those items mandatory for a nuclear facility licensee to have in place, such as the decommissioning plan and security package (see Section V). The TSO will support the ANVS in its preparatory work.

4.3 Review of PSAR

The PSAR may be reviewed in several rounds, but this is not mandatory. License applicants should be aware that in most cases, two or more rounds of reviews will be necessary. If there are two rounds, for example, the first will result in a list of RAIs (requests for additional information), followed by a second review once the PSAR has been adapted. The time needed for this will be strongly dependent on the quality of the PSAR, whether the design was reviewed and approved elsewhere previously, the design's maturity and the presence of the right specialists at the license applicant and the ANVS. The TRP explains the level of detail the ANVS expects to see in the PSAR. In many cases, the ANVS will rely on the TSO for support during the review process. The ANVS and the TSO will need to have clear agreements in place on document exchanges (e.g. using a SharePoint) and the ANVS may need to arrange for an export permit to be issued by the Ministry of Foreign Affairs. See Subsection 3.1 for more information.

To ensure an efficient review process, presenting the PSAR for review in its entirety is strongly preferred. The PSAR is reviewed per section. Generally, a PSAR will have approximately 20 sections. In the pre-licensing phase, the parties may agree to start with the submission of a few initial sections containing a general description of the facility and listing the safety objectives. That way the ANVS can discuss any safety concerns or other issues with the license applicant in good time before the full PSAR is submitted for review.

One or more designated specialists will be appointed to review each section. The TSO's support will also be distributed among the various sections of the PSAR. External support may be a necessity for certain sections and less important for others. This is partly dependent on the type of nuclear facility and the design's maturity. Whether the design was already reviewed elsewhere in the world by one or more other regulators, may also play a role. The TSO may be engaged to help with specific review tasks in addition to the PSAR review, such as carrying out independent safety analyses or independent random shielding calculations.

International cooperation with other regulatory bodies

If the nuclear facility's design is also under review or has already been reviewed in a different country, the ANVS has the option to cooperate internationally. Such cooperation can take a variety of forms. For example, it can refer to a joint review of all or part of the PSAR, or to the use of an existing review by a different regulatory body.

If the foreign nuclear facility's design was reviewed by one or more other regulators previously, the ANVS may use this to inform its own review. In that case, the ANVS will use a graded approach. This means the ANVS may use portions of the external review while carefully evaluating regulatory differences, design changes and location-specific design elements. If relying on a foreign review, systems, structures and components with high safety classifications will generally be reviewed in greater depth than systems with lower safety classifications. The exact approach will depend on the design and the other regulator's review methods. The ANVS will always remain responsible for its own conclusions.

When leveraging reviews or cooperating with other regulators, information access will require careful attention. The license applicant is responsible for this aspect. At the start of the pre-licensing phase, the license applicant and the ANVS will make agreements on information provision and how international cooperation affects the documents to be supplied.

4.4 Assessment report

The results of the ANVS' PSAR review are summarised in an assessment report. This report contains the ANVS's preliminary assessment which will be used in the review of the license application. The license applicant can reasonably assume that the ANVS will not change this assessment unless there are exceptional circumstances, such as new developments or viewpoints giving rise to new insights during the licensing procedure.

Besides the specialist review on the basis of the assessment framework and reference documents, the assessment report also evaluates how the RAIs are handled.

4.5 Publishable PSAR version

The PSAR is an important document for newly built nuclear reactors. At existing facilities, the ANVS makes use of a 'Safety report', a publicly available summary of the PSAR or other safety documentation. For newly built nuclear reactors, the ANVS has opted to have the actual PSAR submitted along with the license application. This removes the need for an additional document, as it already meets the submission requirements described in Section 6, Subsection 1(h) of the Nuclear Facilities, Fissionable Materials and Ores Decree. A PSAR that is written in English is common, and acceptable to the ANVS. If necessary to support a good review, the ANVS may require a full or partial translation of the PSAR; see Section 4:5, Subsection 2 of the General Administrative Law Act. Underlying analyses and reports are not included in the PSAR submitted as part of the application.

Under the General Administrative Law Act (Awb), according to the uniform public preparatory procedure (uov), the application and alle associated documents must be made available for public inspection, including digitally. However, the PSAR also contains information the licensee may not want published due to company confidentiality or that requires protection due to security concerns. Once the ANVS has reviewed the PSAR, after which it can be submitted along with the license application to build the facility, the license applicant will therefore also need to provide a publishable version of the PSAR. In this version, certain parts have been removed or adapted to protect information that should not be publicly accessible due to security or company confidentiality concerns.

The procedure described for the submission of an alternative, publicly accessible version of the license application documents is set out in Section 19.3 of the Environmental Management Act. This explicitly allows for the option to submit alternate, publishable versions of application documents when applying for a license. The alternate version must be approved by the ANVS. This is achieved by means of a review using the Open Government Act's assessment framework. The applicant may consult with the ANVS on the matter.

Both versions must be submitted along with the license application, but only the public version will be published and made available for public inspection.

5 Environmental Impact Assessment

The Environmental Impact Assessment (EIA) describes such factors as the new nuclear facility's environmental impact. According to the Environmental Decree, Annex V, Section C3, an EIA is mandatory when establishing a new nuclear power plant or other nuclear reactor. This part of the guideline describes those parts of the EIA procedure that can be relevant during the pre-licensing phase. For more information about the EIA's role in the licensing procedure, see the ANVS 2025 Licensing Guideline.

For larger energy projects, it must follow the project procedure specified in the Electricity Act. This means the spatial planning decision becomes a project decision and the Nuclear Energy Act license and other necessary permits and decisions must be prepared in coordination. The ANVS remains the authority for the Nuclear Energy Act. This can also affect the EIA procedure, as one project EIA may suffice for multiple licenses. It does not change the requirement for the Nuclear Energy Act application to be accompanied by an EIA suitable for use as a basis for this decision. The ANVS will review this EIA.

Quite a bit of time may pass between the project decision, or the obtaining of other permits, and the application for a Nuclear Energy Act license. There are no specific limits on an EIA's validity. Generally speaking, however, (Environment and Planning Act, Section 16.51, Subsection 1) the EIA must be suitable for use as a reasonable foundation for a project or decision. Therefore, the EIA must be current. According to the regulations (Environment and Planning Act, Section 16.5), this can be assumed to be the case if all reports containing data, research or inventories are no more than two years old. That is not to say an EIA can never be used if it is more than two years old. As long as it is still current, it remains useable. Factors that can affect currency include developments in relevant areas or changes in the intended project since the EIA was first drawn up or the underlying studies were carried out.

5.1 Notification of an intention

According to the Environment and Planning Act, Section 16.46, Subsection 1, the license applicant may ask the authority to advise on the scope and level of detail required of the EIA. This is not mandatory. If the license applicant does ask the ANVS for advice, the ANVS will record this advice in a Opinion on the scope and level of detail. The opinion defines the content of the EIA. The benefit of an opinion is that the ANVS can offer advice on which elements the EIA should include, e.g. alternatives which will need to be explored, before the license applicant starts drafting the actual EIA.

The option for the license applicant to request an opinion on the scope and level of detail can be discussed during the orientation phase and recorded in the initiation document (see 1.3) at the start of the pre-licensing phase. Due to the associated timing, it is recommended to do so in good time. For example, the request could be submitted at the start of the pre-licensing phase.

If the license applicant does submit such a request, the ANVS will initiate the relevant procedure. This is a regulatory requirement (Environment and Planning Act). The ANVS 2025 Licensing Guideline describe the ANVS's handling of such requests in more detail.

5.2 Opinion on the scope and level of detail

The ANVS uses an opinion on the scope and level of detail to describe the framework for the environmental impact assessment (EIA). It addresses such items as the alternatives and environmental aspects which will need to be investigated and on which basis. Submitted viewpoints by legally appointed advisory bodies, relevant authorities or the public and the advice of the committee on the EIA will also be taken into consideration in drawing up the opinion.

Although the opinion is made publicly available, no public participation or appeal is possible. Once the EIA has been submitted along with the application and a draft license has been made available for public inspection, public participation will be possible.

5.3 Draft EIA

After receiving the opinion on the scope and level of detail, the license applicant can start drafting its EIA. There is no statutory time limit for this. Besides the opinion, the EIA should also take the Environmental Decree's requirements into account.

At the license applicant's request, a draft version of the EIA may be presented to the ANVS for discussion in the pre-licensing phase. The actual review will happen as part of the licensing procedure.

According to the regulations, the EIA must be in Dutch. Annexes may be in English.

The pre-licensing phase may also be used to discuss how to handle duplication between the application, PSAR and the EIA. The goal is to avoid unnecessary repetition while ensuring that all these documents meet legal requirements.

6 Connected processes

Besides the preparations to apply for a Nuclear Energy Act license for the establishment of a new nuclear facility, there are other, connected processes occurring in parallel. These processes require timely coordination between the license applicant and the ANVS and relate to the following areas:

1. Review of license applicant's organisation
2. Nuclear security
3. Safeguards to control the distribution of nuclear knowledge and materials
4. Decommissioning
5. Monitoring of the new build (after licensing)

The following section describes the ways in which these topics will already need to be addressed during the pre-licensing phase. For all these topics, the applicant will need to be able to provide information even before the license application, to have access to knowledge and resources and to coordinate with the ANVS. If a topic receives insufficient attention in the pre-licensing phase, this can result in the license application being rejected, lead to additional costs for design changes or increase the risk of violations.

6.1 Review of license applicant's organisation

During the pre-licensing phase, the license applicant's organisation will need to change and adapt in response to the activities taking place at various times. This can involve the possession of relevant expertise, but also document management systems, for example.

The license applicant is responsible for providing proof of its organisation's strength and resilience and of its ability to fulfil the duties and responsibilities of a nuclear facility licensee satisfactorily, demonstrating that it has sufficient SQEP personnel (Suitably Qualified Experienced Personnel) and an Integrated Management System in place.

The ANVS will also continue to assess the organisation throughout the pre-licensing phase. It reviews whether the organisation is on track for compliance with all the conditions required of a nuclear licensee and whether it is capable of contributing to an informed discussion of the issues addressed in the pre-licensing phase.

This review is based on international guidelines and in view of the requirements the license applicant will need to fulfil in the future as a licensee. The requirements in broad terms can be found in the Safety of Nuclear Facilities Regulations, relating to such aspects as the safety culture, suitably qualified experienced personnel and the management system.

6.2 Nuclear Security

The ANVS oversees the security of nuclear facilities, radioactive materials and nuclear information. Nuclear security measures are intended to prevent the theft and sabotage of processes, information, materials and equipment at nuclear facilities and during the transport and processing of radioactive materials.

Besides consulting with the ANVS on the requirements for the licensing process, it is also advisable to start investigating nuclear security requirements in good time.

Nuclear security involves the following topics:

- **Information security.** Information about nuclear applications can necessitate special security measures. Examples include layouts of future nuclear facilities and technical information about fissionable materials or nuclear technologies. The ANVS monitors information security from an initiative's earliest stages.

- **Security by design.** Security issues can affect the intended design choices. Examples include the required thickness of external walls, distances to public roads, vehicle access control and the implementation of safety systems to prevent sabotage. That is why it is necessary to be aware of legal security requirements regarding specific threats early on. Such information is often classified as a state secret, and 'positions involving confidentiality' are designated that are required to be allowed to have access to the information (see 'Positions involving confidentiality' below). The Design Basis Threat describes the relevant information. This information is classified as a state secret, and a designated position involving confidentiality is required to be allowed to inspect it (see 'Positions involving confidentiality' below). In addition, the license applicant must be able to adequately guarantee the security of this information. The ANVS will establish agreements on security with the license applicant.
- **Positions involving confidentiality.** To be allowed to access information that is considered a state secret but also necessary to be able to design a nuclear facility, such as descriptions of threats with legal security requirements, a company will need to demonstrate its 'need to know', be able to guarantee information security and have the relevant employees screened by the General Intelligence and Security Service (AIVD) (authorisation). Meeting these requirements can take over a year in some cases. It is therefore advisable to start this process early in consultation with the ANVS.
- **Security package.** A nuclear facility licensee must have an ANVS-approved security package in place. If desired, a draft security package may be presented for discussion and feedback in the pre-licensing phase.

As soon as theft and sabotage become relevant concerns, the licensee must be able to demonstrate an adequate connection between its own security organisation and the police department. It is advisable to contact the police about such arrangements in the design phase. The ANVS will review the adequacy of the connection between internal and external security as part of the security package.

6.3 Safeguards

Regarding safeguards, it is the ANVS's duty to ensure that nuclear energy, nuclear materials and associated information are not being used for non-peaceful purposes.

To that end, agreements will need to be made with Euratom and the IAEA, and also the ANVS must be provided with technical information about the nuclear technologies used and the fissionable materials involved early on. Additionally, during the design phase it will already be necessary to pay sufficient attention to such technical details as the available space, data connections and electricity provision required for implementation of the mandated technological safeguards.

6.4 Decommissioning

Decommissioning is the final phase in the lifetime of a nuclear installation. The legislator mandates that decommissioning already be taken sufficiently into account at the time that the license to build the installation is granted. Decommissioning affects two sub-activities in the pre-licensing phase:

- The design of the nuclear facility must already take its eventual decommissioning into account. In other words, the design should not make future decommissioning more difficult. The PSAR and decommissioning plan must include descriptions of these arrangements. This means it is important to involve the relevant experts in time.
- As soon as the license to build a nuclear facility has been granted, the licensee must have an ANVS-approved decommissioning plan in place. This plan must describe how the decommissioning will be achieved in general terms. It should include such aspects as the timing, the technologies and employees involved and the handling of radioactive waste released during decommissioning. The plan is required to be based on immediate decommissioning and delivery of a 'greenfield site' as the final goal. Deferred decommissioning following a period of safe enclosure has not been permitted in the Netherlands since 2011. The Nuclear Facilities, Fissionable Materials and Ores Decree and Shutdown and Decommissioning Regulation for Nuclear Facilities lay out the requirements for the decommissioning plan.

It stands to reason to submit the decommissioning plan for approval along with the license application, thereby ensuring its approval at the time that the license to build is issued. The ANVS has six months to come to a decision.

Financial security for decommissioning costs

Once the nuclear facility is operational, the licensee must be able to demonstrate its ability to finance the costs of decommissioning using methods approved by the Minister of Infrastructure and Water Management and the Minister of Finance. Approval is based on the ANVS-approved decommissioning plan. Although this financial security is relevant in a later stage, it can still affect costs and therefore be relevant to the license applicant at a much earlier stage. Regarding this guideline, financial security does not fall under the competence of the ANVS. Neither will the ANVS express an opinion on the estimated decommissioning costs in its review of the decommissioning plan. The ANVS will only assess the decommissioning's technical and organisational aspects. The relevant ministries should be contacted in case of any questions or consultation on the financing of decommissioning.

6.5 Oversight

The ANVS does not yet act as a supervisory body in the areas of nuclear safety and radiation protection in the pre-licensing phase, as there is no license as a bases for the supervision yet and no activities involving fissionable or radioactive materials are taking place. It will start preparing for its oversight duties, however. In this phase, that will mainly involve exchanges of information. There may be security requirements that do require oversight by the ANVS at this time. This is because security requirements can also apply to information even before the nuclear facility has been built.

Furthermore, the license applicant may already be undertaking activities in aid of the future facility's establishment that require reviewing by the ANVS and for which completion at a later date would be undesirable or impossible. One example is the purchase of specific items with a long lead time. The ANVS is currently investigating if and in what form such inspections could be achieved and will discuss and agree on these arrangements with the license applicant in the pre-licensing phase.

7 License application

7.1 License application and associated documents

Sections 3 and 6-9 of the Nuclear Facilities, Fissionable Materials and Ores Decree set out the submission requirements for a license application. Additionally, an EIA is mandatory under the Environment and Planning Act (see Annex V of the Environmental Decree, Categories 3, 4 and 5).

The ANVS will inform the applicant if their application is complete and admissible. If additional information is needed to enable a proper review, the applicant will be given at least one more opportunity to complement the information. If the application is admissible, the applicant will be informed of this and charged the first fee in accordance with the Fees Decree for the Nuclear Energy Act (see Subsection 1.4).

The ANVS 2025 Licensing Guideline specifies that an application will be published once it is admitted. Public participation is not yet possible at this time; that happens once there is a draft license.

If any documents submitted along with the application contain trade secrets or security data that should not be publicly accessible, the license applicant can ask to submit an 'alternative version'. This is an adapted version of the same document suitable for public inspection. This is regulated by the Environmental Management Act, Sections 19.3 to 19.5. The applicant must substantiate why access to the information should be denied based on the Open Government Act's assessment framework. The ANVS must approve the adapted content and will indicate that this concerns an alternative version on making it available for public inspection.

This applies to the publishable version of the PSAR, and possibly also to other application documents.

As previously noted, the ANVS has decided to no longer demand a public and Dutch 'Safety Report' summarising the safety documentation for new initiatives. The PSAR can also be used to comply with the submission requirements, while offering the option to remove or adapt information that should not be publicly accessible.

7.2 Look ahead to licensing procedure

The submission of the license application signals the start of the licensing procedure. The ANVS will assess the application and EIA against the legal requirements. For more extensive information about the licensing procedure, see the ANVS 2025 Licensing Guideline.

The time limit from license application to publication of the decision is six months, although the term may be extended once by a reasonable amount. For new nuclear initiatives, it is likely that the ANVS will make use of this option due to the process's complexity and the expected public participation response. For example, the time limit for the PALLAS research reactor's application for a license to build the reactor was extended by two months. More complex facilities may necessitate a longer extension. The same applies if the pre-licensing phase was very short.

If the ANVS concludes that the application and EIA are compliant, it will prepare a draft license decision. The draft license is made available for public inspection. Public inspection is now possible for a period of six weeks. The license applicant is similarly free to state its views on, for example, the license restrictions and conditions. Additionally, in this phase the relevant administrative bodies and legally appointed advisory bodies will again be involved in the context of the EIA procedure. The ANVS will also ask the committee on EIA for an advisory review of the environmental impact assessment.

One of the documents required for the draft license is a report summarizing the pre-licensing phase. The report ensures transparency toward the public on what occurred prior to the licensing procedure. This is a factual report.

The ANVS will then weigh all the received viewpoints and advice and make its final decision. A public notice announces the final license's availability for public inspection. On the occasion of the license being granted, the applicant will be charged a second fee under the Fees Decree for the Nuclear Energy Act (see 1.4).

Stakeholders and anyone who submitted a viewpoint on the draft license, can lodge an appeal against this final license with the Administrative Jurisdiction Division of the Council of State. An appeal will not automatically suspend the decision. However, the party lodging the appeal may apply for preliminary injunction at the same time. In that case, the court will determine whether the license should be suspended until the appeal has been decided. If the preliminary injunction is granted, that means construction cannot start yet. If no preliminary injunction was requested or granted, the licensee may already begin making use of the license at their own risk during the appeal procedure.

The license goes into effect the day after the six weeks in which one can lodge an appeal, have passed. The Nuclear Energy Act license's entry into force is also linked to the municipality's granting of the required permit for the construction activity. Both the license and this permit must be in force before construction can start.

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