

Recent publications

Legal Frameworks for Long-Term Operation of Nuclear Power Reactors (2019), by the NEA

In July 2019, the world's oldest operating nuclear power reactor passed 50 years since it was first connected to the electricity grid. Four other nuclear power reactors will also have passed 50 years of operation since they were first connected to the electricity grid before the end of 2019. With almost 70% of the world's operating reactors over 30 years of age, countries around the world are assessing whether to allow reactor operation to continue past the 50- to 60-year mark and potentially up to 80 years. Ensuring a proper legal framework for the long-term operation (LTO) of nuclear power reactors is a key component of such considerations. While there are numerous reports that address LTO from a technical standpoint, and some of these also incorporate a review of regulatory frameworks for LTO, *Legal Frameworks for Long-Term Operation of Nuclear Power Reactors* is the first report of its kind to comprehensively address the legal and policy aspects involved in a decision to allow or authorise long-term operation.

The aim of the report is to provide insight into the various laws, regulations and policies that contribute to different countries' approaches to LTO around the world, without any judgement as to the merits of one approach over another. The report is thus intended for a wide audience who may wish to better understand both the current state of international approaches to LTO and the detailed approaches of one or many countries.

Official information was provided by 25 countries (collectively referred to as the "reporting countries"), 24 of which are Nuclear Energy Agency (NEA) member countries, and by an additional country that participates in certain NEA activities.¹ In total, the report covers 359 (or 80%) of the world's operating nuclear power reactors.

With information collected from countries that have both experience in and plans for LTO, the report highlights some of the commonalities that emerge and the possible reasons for some of the variations. The overall review of different legal frameworks for LTO in these countries illustrates how even among countries with similar approaches, small distinctions can ultimately amount to major differences. A comprehensive analysis of the information provided by reporting countries draws the following main conclusions:

- Differences among reporting countries in the initial licensing frameworks for nuclear power reactor operation have a substantial impact on the legal frameworks for LTO. Initial authorisations for nuclear power reactor operation may be granted either for a specific, time-limited term or for an indefinite duration. This variation most often, but not systematically, determines whether a specific decision is taken to authorise the LTO of a nuclear power reactor.

1. It should be noted that not all reporting countries operate nuclear power reactors and not all countries that operate nuclear power reactors are pursuing LTO.

- All reporting countries require a review of nuclear safety related aspects of LTO by their national regulatory bodies, although authorisation or approval for LTO is in some instances granted by a ministry or by the government, rather than the regulatory body.
- Regulatory approaches to LTO are often described as either a periodic safety review (PSR) or a licence renewal. For reporting countries, however, the usual PSR and/or licence renewal dichotomy was not the most suitable distinction. Instead, the safety review in reporting countries is performed by either carrying out a PSR, an LTO-specific review or a combination of the two. It should be noted that such reviews do not necessarily lead to a formal licensing decision to authorise LTO.
- Of the reporting countries that require a specific authorisation for LTO, approaches vary in terms of the requirements for a new licence, a renewed licence, an amended or updated licence and a ministerial order.
- A legal requirement exists in the majority of reporting countries to perform a review of the environmental impacts prior to LTO, although the nature and extent of such reviews vary.
- In all reporting countries, new safety requirements related to LTO can be imposed through the LTO-review process. The ability to impose new safety requirements is, however, not always specifically linked to an LTO-approval process; in many reporting countries, new safety requirements may be imposed as part of the PSR process or in some cases at any time during reactor operation.
- Most reporting countries' legal frameworks provide rights to the public to access LTO-related information held either by public authorities, or, in some reporting countries, by licensees. Typically, these rights are provided under the general, environmental or national nuclear laws and therefore are not specific to LTO.
- The legal frameworks for LTO-related public participation vary among reporting countries. While not all reporting countries provide for public participation, for those that do, such requirements typically rest with the nuclear regulatory body or another decision-making authority (e.g. the public authority in charge of environmental protection or a local authority) and may entail public hearings, written comments and/or the dissemination of draft decisions for public consultation, as well as requirements for the decision-making authority to take into account comments received when reaching its final decision.
- Nearly all reporting countries allow legal challenges to the LTO process (often concerning the authorisation, approval or other type of decision made in the context of the LTO-review process). In most instances, the procedures for such challenges are determined by civil or administrative procedures that are not unique to the nuclear energy sector.

A detailed review of national approaches to LTO is also provided in the report. In many ways, the country reports are the central part of *Legal Frameworks for Long-Term Operation of Nuclear Power Reactors*. Each country report is drafted so that it can be read and understood separately from the report as a whole. When applicable, each country report provides key data regarding the status of nuclear power reactor operation, important details about the designed and authorised periods, terminology, main laws/regulations/documents for initial operation and LTO, responsible government bodies, application and review timing, scope of review (both safety and

environmental), new safety requirements and transboundary notification. Each country report concludes, as far as applicable, with a review of the available avenues for access to information and public participation during the LTO-approval process in the individual reporting country, as well as the opportunities and procedures to initiate legal challenges.

With the information gathered for this report, it can ultimately serve as a resource for future exchanges concerning the legal aspects of LTO, with a view to further developing and strengthening the collective understanding of these issues.

The report can be downloaded at: <http://oe.cd/nea-lto-npp>.

