UNITED KINGDOM REGULATORY CONTEXT

Regulatory Regime

The Office for Nuclear Regulation (*ONR*) is the regulatory body for all aspects of nuclear safety within the UK. The UK generally operates a goal-setting regime rather than the more prescriptive regimes applied in other countries such as France and the USA. The ONR sets out broad regulatory requirements and expectations for the UK civil nuclear industry, and places the onus on civil nuclear licensees to produce and justify their own arrangements for achieving these requirements. The licensee is responsible for the way in which goals are set and met. Usually this is by applying modern safety standards and procedural safeguards. The ONR will assess the adequacy of the licensee's arrangements for producing and maintaining a safety case against Licence Condition 14. The ONR assesses the adequacy of the submitted documentation that forms and supports the safety case against the expectations set out in its Safety Assessment Principles *(SAPs)*.

In order to build and operate a Nuclear Power Plant (NPP) in the UK, the operator is required to obtain licences and permissions from a number of different bodies. These bodies include planning authorities, environmental regulators, and, importantly in the context of a nuclear safety case, the Office for Nuclear Regulation (ONR) which is responsible for granting a nuclear site licence. This is a legal document, issued for the full life cycle of the facility.

While the safety case is a mandatory regulatory requirement, its primary purpose is to enable the operator of a nuclear facility or process to satisfy themselves that:

They have considered all the potential risks associated with the activities on their site;

They have implemented suitable and sufficient measures to mitigate the risk of radiological consequences to their staff and the public to a level that is As Low As Reasonably Practicable (ALARP).

The safety case is an operational document, or suite of documents, and is the tool for communicating to operators and other stakeholders how the safety of the plant is maintained during normal operations and foreseeable fault conditions.

ONR Safety Assessment Principles (SAPs)

The ONR uses its SAPs to assess the safety at existing or proposed nuclear facilities. The primary purpose of the SAPs is to provide inspectors and assessors with a framework for making consistent judgements on the safety of sites and activities. The ONR is clear that the SAPs are intended for its use and that licensees are expected to set out their own bases on which to assess whether levels of safety are adequate, and to develop their own arrangements to demonstrate the safety of their installations and operations. However, it would clearly be remiss of licensees to ignore the principles presented in the SAPs against which the adequacy of their arrangements will be assessed. Licensees' requirements therefore tend to mirror and often exceed the expectations laid out in the SAPs. The SAPs are supported by Technical Assessment Guides (*TAGs*) that further assist decision making within the nuclear safety regulatory process.

ONR Technical Assessment Guides (TAGs)

The ONR publishes TAGs to provide guidance to ONR inspectors on the interpretation and application of the ONR SAPs. NS-TAST-GD-051 is a key document in that it sets out the ONR's expectations for the purpose, scope and content of safety cases. This TAG covers all aspects of nuclear safety including deterministic and probabilistic safety techniques and principles.

Additional Information & Guidance

- ONR, Safety Assessment Principles for Nuclear Facilities, 2014 Edition. (Revision 1, January 2020)
- ONR, NS-TAST-GD-051, The Purpose, Scope, and Content of Safety Cases, December 2019.
- ONR, A Guide to Nuclear Regulation in the UK, 2016 update.
- ONR, Enforcement Policy Statement, April 2019.
- ONR, Licence Conditions Handbook, February 2017.
- ONR, Licensing Nuclear Installations, September 2019.
- Nuclear Installations Act, 1965.