

甲A第177号証

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IAEA  
SAFETY  
STANDARDS  
SERIES

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Seismic Design  
and Qualification for  
Nuclear Power Plants

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SAFETY GUIDE

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No. NS-G-1.6



**IAEA**  
International Atomic Energy Agency

experience is discussed in Section 6. Section 7 presents guidance on recommended seismic instrumentation, and suitable monitoring procedures and their relation to design assumptions.

## 2. GENERAL SAFETY CONCEPTS

### SCOPE

2.1. This section makes recommendations on categorizing the structures, systems and components (SSCs) of a nuclear power plant in terms of their importance to safety in the event of a design basis earthquake, in accordance with the requirements established in Safety of Nuclear Power Plants: Design [1]. Recommendations are also made concerning the application of standards for design to guarantee an appropriate safety margin in the design.

2.2. A quality assurance programme is required to be established and implemented to cover items, services and processes that affect safety and are within the scope of this Safety Guide (Ref. [1], paras 3.14–3.16). The quality assurance programme is required to be implemented to ensure that data collection, data processing, studies, analyses and qualification, code validation (software) and verification, and other activities necessary to meet the recommendations of this Safety Guide are performed correctly [11, 12].

### DESIGN BASIS EARTHQUAKE

2.3. According to Ref. [2], two levels of ground motion hazard should be evaluated for each plant sited in a seismic area. Both hazard levels should generate a number of design basis earthquakes grouped into two series, seismic level 1 (SL-1) and seismic level 2 (SL-2), following the procedures outlined in Ref. [2] and according to the target probability levels defined for the plant design<sup>4</sup>.

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<sup>4</sup> In some States, SL-2 corresponds to a level with a probability of being exceeded in the range  $1 \times 10^{-3}$  to  $1 \times 10^{-4}$  (mean values) or  $1 \times 10^{-4}$  to  $1 \times 10^{-5}$  (median) per reactor per year and SL-1 corresponds to a level with a probability of being exceeded of  $1 \times 10^{-2}$  (mean value) per reactor per year.

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和訳 4頁脚注4

いくつかの国では、SL-2が、超過確率 $10^{-3}$ ~ $10^{-4}$ （平均）あるいは $10^{-4}$ ~ $10^{-5}$ （最頻値）（炉年）の範囲の水準に相当し、SL-1が超過確率 $10^{-2}$ 炉年の水準に相当する。