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**INTERNATIONALE
LÄNDERKOMMISSION
KERntechnik**

Baden-Württemberg · Bayern · Hessen



ILK Statement

**on Fundamental Safety Requirements
for Nuclear Power Plants**

Für deutsche Fassung bitte umdrehen!

**September 2008
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Foreword

The International Committee on Nuclear Technology (Internationale Länderkommission Kerntechnik, ILK) was established by the three German states of Baden-Württemberg, Bavaria and Hesse in October 1999. It currently consists of 9 scientists and experts from Finland, France, Germany, Switzerland and USA. The ILK acts as an independent and objective advisory body to the three German states on issues related to the safety of nuclear facilities, radioactive waste management and the risk assessment of the use of nuclear power. In this capacity, the Committee's main goal is to contribute to the maintenance and further development of the high, internationally recognised level of safety of nuclear power plants in the southern part of Germany.

ILK has repeatedly involved itself with the update of the nuclear regulations and submitted two statements on the subject. In ILK 22, dated July 2005, it named the requirements that, in its opinion, are to be placed on a modern set of regulations in Germany. In ILK-29, dated June 2007, it submitted its opinion on the outline "Update of the German nuclear non-mandatory guidance instruments" submitted by BMU. In the current publication, which was adopted at the 50th ILK meeting held on October 21st, 2008 in Frankfurt, the ILK presents the results of its deliberations regarding its own draft "Fundamental Safety Requirements for Nuclear Power Plants". From the ILK point of view, this draft, which was developed in cooperation with the ISaR GmbH, reflects, the safety content and focus that is necessary as the framework for detailed regulations. It is an attachment to this statement.

The chairman



Dr.-Ing. Erwin Lindauer

Foreword	2
1 Background	4
2 Purpose of the "Fundamental Safety Requirements for Nuclear Power Plants"	5
3 Recommendations for further actions	6
4 References	7
ILK Members	8
ILK Publications	9

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1 Background

An update of the German regulations has been under discussion for years. It was initially pursued with the KTA 2000 project [1]. After this project was terminated, the Federal Ministry of the Environment (BMU) commenced the "Update of the German nuclear non-mandatory guidance instruments" project in 2003 [2]¹.

ILK supports an update of the nuclear regulations, because parts of it are no longer up-to-date, see also ILK statement ILK 22 [3]. Although the regulation deficits have not caused safety shortcomings in the equipment or during operation of German nuclear power plants, ILK considers it appropriate to formulate a set of regulations to benefit clarity in the application of the Atomic Energy Act, in particular covering

- all areas to be regulated,
- the requirements to be applied in accordance with international consensus.

ILK has repeatedly involved itself with the update of the regulations and submitted two statements on the subject. It named the requirements in ILK 22 [3] that, in its opinion, are to be placed on a modern set of regulations in Germany. It submitted its opinion on the outline submitted by BMU in ILK-29 [4] and declared that it is not suitable to support the implementation of the Atomic Energy Act. ILK recommended that it should not be enacted, but instead to develop a new draft based on a joint understanding between the federal and regional states. It welcomed the BMU project to work out a nuclear plant safety ordinance jointly with the regional states, which employs a similar approach.

¹ Note: During the adoption procedure of this ILK statement the BMU published a revision C of the „Fundamentals for the Safety of Nuclear Power Plants“ (in German only); this document will not be addressed in this statement.

2 Purpose of the "Fundamental Safety Requirements for Nuclear Power Plants"

The ILK opinion is that

- a German set of regulations must reflect the joint understanding between the federal and regional states
- this understanding can be attained most practicably by a stepwise approach, during which fundamental requirements are first defined and then used as the framework for more detailed regulations.

Regarding these fundamental requirements the ILK proposes the document "Fundamental Safety Requirements for Nuclear Power Plants", which was developed in cooperation with ISaR GmbH and is attached to this statement.

The first draft of this document was prepared by ISaR by order of ILK. It was discussed within ILK, who then adopted it for comments. The draft was put up for discussion nationally and internationally. The received comments were assessed by ISaR by order of ILK and their consideration discussed within ILK. The revised document (see attachment) was adopted by ILK.

The "Fundamental Safety Requirements for Nuclear Power Plants" reflect, from the ILK point of view, the safety content and focus that is necessary as the framework for detailed regulations. They

- describe the fundamentals and the safety concept that should be implemented by the set of regulations,
- name the topics, for which the set of regulations should specify requirements,
- describe the requirements to be specified at an adequate level of detail such that fundamental problems should not arise during the subsequent supplementation with detailed regulations.

The requirements specified by ILK itself [3], e.g. completeness or orientation towards the international status, are fulfilled by the "Fundamental Safety Requirements for Nuclear Power Plants".

ILK has considered only the technical safety requirements. ILK does not express an opinion on the legal implementation and provides only the technical safety content for this.

3 Recommendations for further actions

ILK recommends that the regional states it has counselled present the "Fundamental Safety Requirements for Nuclear Power Plants" as their proposal for a framework for nuclear regulations in the discussion with the BMU. ILK is of the opinion that an appropriate set of regulations cannot be generated without the definition of a framework with these contents. A discussion naturally presumes a readiness to modify one's own suggestion by virtue of arguments relevant for safety.

ILK recommends an additional broad commentary process by national stakeholders and via an international peer-review under the auspices of IAEA or WENRA before the implementation in a set of regulations.

An important step has been taken with the definition of fundamental requirements, but this still does not provide a complete set of regulations. The fundamental requirements are to be supplemented by detailed regulations. A suitable approach needs to be agreed upon for this. Part of the necessary detailed regulations already exists in the form of KTA standards which are reviewed periodically. Additional actions are not necessary here, in the opinion of ILK. Further regulations can be found in a variety of documents, which should be replaced by a new set of regulations, e.g. BMI-Sicherheitskriterien für Kernkraftwerke [5, "BMI Safety Criteria for NPP"] or RSK-Leitlinien für Druckwasserreaktoren [6, "RSK Guidelines for PWR"]. These documents could be incorporated after a corresponding review, insofar as there is no need for revision. Insofar as detailed regulations do not exist for any issues, then new regulations should be created. ILK believes that it is also important that the stakeholders participate extensively during the formulation of the detailed regulations.

4 References

- [1] KTA (Kerntechnischer Ausschuss): "*Programm KTA 2000*", without date, <http://www.kta-gs.de>
- [2] BMU (Bundesumweltministerium): "*Fundamentals for the Safety of Nuclear Power Plants – Safety Requirements according to the State of the Art in Science and Technology, Modules 1 to 11*", Revision B, without date; <http://regelwerk.grs.de>
[Note: As of September 2008, only the German version of revision C is published on this website]
- [3] ILK (International Committee on Nuclear Technology): "*ILK Recommendations on Requirements on Updated General Nuclear Regulatory Guidelines in Germany*", ILK-22, July 2005, Augsburg, Germany
- [4] ILK (International Committee on Nuclear Technology): "*ILK Statement on BMU Project 'Update of Nuclear Regulatory Guidelines'*", ILK-29, June 2007, Augsburg, Germany
- [5] BMI (Bundesministerium des Inneren): "*Sicherheitskriterien für Kernkraftwerke*" [„*Safety Criteria for NPP*“] from October, 21, 1977 (Bundesanzeiger 1977, No. 206)
- [6] RSK (Reaktor-Sicherheitskommission): "*RSK-Leitlinien für Druckwasserreaktoren*" [„*RSK Guidelines for PWR*“], 3rd edition of October, 14, 1981 (Banz 1982, No. 69a) with changes: in section 21.1 (Banz 1984, No. 104), in section 21.2 (Banz 1983, No. 106) and in section 7 (Banz 1996, No. 158a) with correction (Banz 1996, No. 214)

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8. **Dr. Serge Prêtre, Switzerland (Vice Chairman)**
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Chairman of the ILK From December 2000 to January 2006
9. **Antero Tamminen, Finland**
Former long-time Technical Manager at Loviisa NPP, Finland

(Members are listed in alphabetical order)

- ILK-01** ILK Statement on the Transportation of Spent Fuel Elements and Vitrified High Level Waste (July 2000)
- ILK-02** ILK Statement on the Final Storage of Radioactive Waste (July 2000)
- ILK-03** ILK Statement on the Safety of Nuclear Energy Utilisation in Germany (July 2000)
- ILK-04** ILK Recommendations on the Use of Probabilistic Safety Assessments in Nuclear Licensing and Supervision Processes (May 2001)
- ILK-05** ILK Recommendation on the Promotion of International Technical and Scientific Contacts of the Nuclear Safety Authorities of the German States (October 2001)
- ILK-06** ILK Statement on the Draft Amendment dating from July 5, 2001 to the Atomic Energy Act (October 2001)
- ILK-07** ILK Statement on Reprocessing of Spent Fuel Elements (November 2001)
- ILK-08** ILK Statement on the Potential Suitability of the Gorleben Site as a Deep Repository for Radioactive Waste (January 2002)
- ILK-09** ILK Statement on the General Conclusions Drawn from the KKP 2 Incidents associated with the Refueling Outage of 2001 (May 2002)
- ILK-10** ILK Statement on the Handling of the GRS Catalog of Questions on the “Practice of Safety Management in German Nuclear Power Plants” (July 2002)
- ILK-11** ILK Recommendation on Performing International Reviews in the Field of Nuclear Safety in Germany (September 2002)
- ILK-12** Internal ILK-Report on the Intentional Crash of Commercial Airliners on Nuclear Power Plants (March 2003)
- ILK-13** ILK Statement on the Proposals for EU Council Directives on Nuclear Safety and on Radioactive Waste Management (May 2003)
- ILK-14** ILK Statement on the Recommendations of the Committee on a Selection Procedure for Repository Sites (AkEnd) (September 2003)
- ILK-15** ILK Recommendation on the Avoidance of Dependent Failures of Digital I&C Protection Systems (September 2003)
- ILK-16** ILK Statement on Sustainability Evaluation of Nuclear Energy and other Electricity Supply Technologies (January 2004)
- ILK-17** ILK Statement on Maintaining Competence in the Field of Nuclear Engineering in Germany (March 2004)
- ILK-18** ILK Summary Report of the 2nd International ILK Symposium „Harmonisation of Nuclear Safety Approaches – A Chance for Achieving more Transparency and Effectiveness?“ (May 2004)

- ILK-19** ILK Statement on the Regulator's Management of the Licensee Self-Assessments of Safety Culture (January 2005)
- ILK-20** ILK Statement on Requirements on Anticipated Transients without Scram (ATWS) (March 2005)
- ILK-21** ILK-Report: Summary of the International ILK Workshop „Sustainability“ (May 2005)
- ILK-22** ILK Recommendations on Requirements on Updated General Nuclear Regulatory Guidelines in Germany (July 2005)
- ILK-23** ILK Statement on determining Operating Periods for Nuclear Power Plants in Germany (September 2005)
- ILK-24** ILK Statement on the Utilization of Nuclear Energy in Germany (November 2005)
- ILK-25** ILK Recommendation on the Revitalisation of the Repository Projects Gorleben and Konrad (November 2005)
- ILK-26** ILK Statement on the Impacts of the Chernobyl Accident – An Inventory after 20 years (January 2006)
- ILK-27** ILK Recommendations on the Further Development of Periodic Safety Reviews in Germany (November 2006)
- ILK-28** ILK Report on the Assessment of Nuclear Oversight Activities of the Ministry of Environment, Baden-Württemberg (December 2006)
- ILK-29** ILK Statement on BMU Project „Update of Nuclear Regulatory Guidelines“ (June 2007)
- ILK-30** ILK-Statement on BMU Paper „Taking on Responsibility: Implementing the Consensus Agreement on Final Disposal“ (July 2007)
 - CD with presentations held at the ILK Symposium "Opportunities and Risks of Nuclear Power" in April 2001
 - Proceedings of presentations held at the 2nd ILK Symposium "Harmonisation of Nuclear Safety Approaches – A Chance for Achieving more Transparency and Effectiveness?" in October 2003

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