

**ILK**

INTERNATIONALE  
LÄNDERKOMMISSION  
KERntechnik

Baden-Württemberg · Bayern · Hessen



# ILK Statement

on the Recommendations of the Committee  
on a Selection Procedure for Repository Sites  
(AKEnd)

*Für deutsche Fassung bitte umdrehen!*

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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 is currently composed of 13 scientists and experts from Germany, France, Sweden, Switzerland and USA. The ILK acts as an independent and objective advisory body to the 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.

Since its conception, the ILK has dealt with the final disposal of radioactive waste and the problem of the suitability of the site in particular. Previous statements concerned the final storage of radioactive waste (adopted in July 2000, ILK-02) and the potential suitability of the Gorleben site as a deep repository for radioactive waste (adopted in January 2002, ILK-08). The present statement on the recommendations of the committee on a selection procedure for repository sites (AkEnd), adopted on the 25<sup>th</sup> ILK meeting on September 15<sup>th</sup>, 2003 in Stuttgart, is in line with the key pronouncements of these previous two statements. It deals with the attempt initiated by the German Federal Ministry for the Environment to develop a new procedure for final repository site selection in Germany.

The Chairman



Dr. Serge Prêtre

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## 1 Introduction

After four years of work, the AkEnd committee (Committee on a Selection Procedure for Repository Sites [Arbeitskreis Auswahlverfahren Endlagerstandorte]) presented its recommendations at the end of 2002. The committee of 14 scientists from a multidisciplinary background was set up in early 1999 by the German Federal Ministry for the Environment (BMU) with the objective to develop a procedure and criteria for the search and selection of a final repository site for all types of radioactive waste (low, medium and high level waste) in deep geological formations in Germany.

The ILK has given thought to the AkEnd recommendations and generally commends the AkEnd for attempting to develop a systematic procedure for solving the issue of radioactive waste disposal in Germany. However, the ILK believes that the general conditions set by the BMU on the AkEnd are inappropriate and that the procedure proposed by the AkEnd has deficits regarding several key points. The ILK justifies this stance in the following. In so doing, the ILK relies on the findings of a group of international experts [1] that was commissioned by the ILK to evaluate the results of the AkEnd. In its statement, ILK expressly does not consider constitutional and legal issues that are touched upon by the site selection procedure recommended by the AkEnd. These should be the subject of a separate investigation.

The considerations made below are based on the summary of the AkEnd recommendations [2] and its official English translation [3] that were published in the form of a brochure. The page and chapter numbers in the subsequent text refer to this summary and *italicised* passages represent quotations. Some points were compared to the comprehensive final report [4].

## 2 General Conditions and Fundamentals of the AkEnd Work

The AkEnd recommendations are considerably influenced by the following two preconditions that were set by the BMU:

- The AkEnd was directed to ignore existing sites in its selection procedure. Correspondingly, this procedure starts with the assumption of a so-called white map of Germany and then selects a potential site from all the different German territories after going through several steps.

This manner of site determination may enable a methodologically consistent approach but it does not correspond to the actual situation. In Germany, a licensed final repository for low and medium level waste already exists (Konrad), as does a potential site for high level waste (Gorleben) that has already been explored very comprehensively and with thus far very positive results. In both cases, a total of about 2.1 bil. € was invested to date. The ILK believes that these substantial investments should not be written off a priori without due justification and emphatically recommends a comprehensive safety analysis for Gorleben be performed as already pointed out in an ILK statement on the potential suitability of the Gorleben site as a deep repository for radioactive waste [5]. Furthermore, it recommends a selection procedure be defined that includes the above-mentioned facts concerning Gorleben and that the final repository Konrad be commissioned as soon as possible.

- The AkEnd was instructed that one single repository should suffice for all types and amounts of radioactive waste.

In the opinion of the ILK, this politically based target has substantial technical implications for the site selection and for the repository itself and makes the site selection considerably more difficult as low and medium level waste on the one hand and high level waste on the other place different requirements on a repository. For this reason, it is quite likely that a site that is very well suited to the disposal of high level waste does not qualify for joint disposal, because it is, for example, not suitable for the disposal of gas producing low and medium level waste. Generally, the final disposal of short-lived low and medium level waste is a simpler task than for high level waste, because the isolation period needed could be dramatically reduced in this case. Furthermore, there is also a real need for the earlier availability of a repository for low and medium level waste. AkEnd itself only sparingly comments on the single-repository concept, but does so in clearly negative terms. The ILK is not aware that any other country is attempting to implement such a policy. This is particularly difficult to

understand because Germany already has at the Konrad site a repository for low- and medium-level waste that has been awarded a license for construction and operation. The ILK therefore recommends considering separate final repositories for low and medium level waste on the one hand as well as for high level waste on the other, as already outlined in an ILK statement on the final storage of radioactive waste [6].

Under *General Requirements for the Selection Procedure* (Chapter 2, Section 2.1) it is stated that *the isolation period shall lie within an order of magnitude of one million years*. This issue is a matter of debate, but given adequate geological conditions and a sufficient understanding of the repository system, it is fair to say that robust statements about such long time periods can be made. The closer they refer to the present the more precise they can be made, for example in terms of individual doses; the further they reach into the future the more they have to be restricted to propositions regarding subsystems of the repository system. The ILK believes that the formulation of the requirement is unfortunate and may cause misunderstanding. It is prudent to distinguish between requirements with respect to:

- Time period for (complete) isolation of the waste in the canisters
- Time period to which the safety analyses shall be extended in order to demonstrate that intolerable impacts on the biosphere will be avoided (where confidence has to be achieved that the assessment basis is well founded, see [7], p. 11)

A requirement of (complete) isolation for one million years is hardly credible from a scientific point of view and the ILK would have welcomed a more limited use of such a key term to avoid misunderstandings.

The multibarrier system of a deep repository provides safety not only by isolation but also through retention and retardation of the radionuclides. A site must be selected in such a way that even in scenarios where the isolation is breached, the retaining and retarding processes in, at or in front of the repository (i.e., between the repository and potential recipients in the biosphere) will provide the required level of safety. These principles are further discussed in, for example, SKB's RD&D-programme 95 [8] and Nagra's latest safety report [9].

### 3 Public Participation

An essential part of the AkEnd suggestion is public participation in the selection procedure for a repository site. The ILK also believes that this is an important aspect and comments on some of AkEnd's statements on this issue below. The ILK is aware that there is a prevailing opinion within certain circles of the EU-Commission [10] and the OECD [11] (cf. also [12]) that individual national rules are not sufficient for solving the problem of radioactive waste disposal. Correspondingly, it is considered that new processes should be created in order to pay full tribute to the long-term aspects of this issue. These processes should award a greater role to the local population and foster trust. The ILK does not expressly take a stand on this socio-political problem. Furthermore, the ILK hasn't dealt with the extent to which the procedures designated by the AkEnd for public participation are reconcilable with regulations established in Germany by the constitution and laws at the various state levels.

The AkEnd underlines the importance of public participation in the site selection procedure as well as of local willingness to participate (as opposed to the principle of "voluntariness" chosen in other countries). The ILK understands these general points. However, it questions whether the proposed site selection procedure can ensure a reasonable and timely public involvement, especially in the later stages.

In the early stages (agreement on the selection procedure, Steps 1 and 2 of the selection procedure), public involvement will probably concern general issues (policies, procedures, responsibilities). Once candidate regions or sites have been identified (Step 3 of the selection procedure), the conditions are likely to change dramatically because the matter will suddenly concern and activate individuals and groups that previously did not regard themselves as affected. At this stage, all kinds of issues may be put forward, including aspects relating to the selection procedure as such. Anyone, however, who enters the discussion at this stage will find that the selection procedure, the roles to be played and the scheme for decisions have already been decided and are not open to change.

In the ILK's opinion, an adequate and fair public participation, especially at the local level, also depends on the ability to respond flexibly to local circumstances and expectations placed on the procedure. Public participation can lead to success if the process of participation is perceived as fair and reasonable. Furthermore, the process has to be sustainable in the long run and needs to be carefully elaborated. This has to be done within the framework of laws and regulations, and carefully balanced against the necessity for a logical, clear and comprehensible siting process. It is also necessary to have a shared set of values in terms of overall goals and requirements for the disposal program, the disposal concept considered, principles regarding retrievability and controllability, etc. This shared set of values provides boundaries for the local-level public participation process and must be established at the national level. From this perspective, judiciously applied advisory and participation instruments as also outlined by the AkEnd (e.g. information platform) may serve to focus and eventually incorporate or "close" critical points already in initial stages of the process. However, a successful public participation does not necessarily mean that consensus must be achieved.

The ILK believes that this elaborate participation process can only develop in a positive way through the cooperation between:

- an implementer, with the role to pursue the site selection programme in a responsible and goal-oriented manner
- the regulator as the "trustee" on behalf of the public
- the local public
- the local political bodies

It is crucial that both the implementer and the regulator are involved in the information exchange from the very start. In their respective roles, they must - on a continuous basis - present their views and actions to the public and be able and available to respond to questions. All their undertakings must be open and appear reasonable to everyone. Only then can the public form an opinion about the trust-

worthiness of the organisations in charge that will - in the end - be responsible for application and licensing, respectively. For the implementer and the regulator, gaining the trust of the local population plays a key role.

A striking feature of the model proposed by AkEnd for public participation is the total absence of licensing authorities in this process. After all, the national and regional authorities are the ones who, on behalf of the public, ensure in a responsible and competent way that laws and regulations are followed. They are meant to provide the public with unbiased and clear information. After all, later on, they are the ones who will license the repository or repositories.

It is the ILK's opinion that the *control committee* proposed by AkEnd cannot replace the regulator, let alone the implementer. To serve credibly as the public's trustee and supervisor, the committee would need to have gained the full confidence of the public. This confidence will be difficult to gain, given the somewhat diffuse role of the body.

As concluded in the AkEnd report, public participation will also demand resources for information and expert competence, such as the intended *citizens' fora* and *centres of competent experts*. These resources should be fully funded by independent organisations.

The AkEnd has suggested to determine the *willingness to participate* at two points of decision during the selection procedure. The population of the affected community(ies) will first be asked whether they agree to exploration activities from the surface and, later on, whether they agree to underground explorations (Steps 3 and 4, p. 17). Thus, at least two referenda (votes) are envisaged for each site before going underground. Furthermore, the AkEnd report argues for one additional orienting vote of the affected community(ies) to permit the repository construction (Step 5, p. 19) at the end of the selection procedure, this *in the sense of controlling the procedure* (p. 13) or gaining the ownership over the process. In the view of the ILK, it is appropriate that major steps of the selection procedure are preceded by local decisions (although the number of decisions to be made should be fewer than proposed by AkEnd).

However, throughout this process it should be clear who will be in charge of the final decision on the site at the end of the selection procedure and what the mandate of the local political level will be at that stage. The final decision must be the responsibility of the government or, as recommended by the AkEnd, the responsibility of the parliament (*Bundestag with participation of the Länder*, p. 19).

In summary, the ILK holds that willingness to participate requires that

- the public fully trust the implementer, the regulator and the radioactive waste management community as a whole. The selection procedure must be perceived as fair. Only then will people be confident that the project as a whole is trustworthy and reliable and that consequently the repository will be safe. The implementer, the regulator and the further experts involved must earn this confidence themselves, and
- a vast majority of locally affected individuals and groups is convinced that the establishment of the repository will be beneficial to them and will have positive socio-economic impacts on the local society.

#### 4 Steps in Selection Procedure

The selection procedure proposed by AkEnd (Chapter 4) consists of five steps. Step 1 and 2 in principle represent general studies, Step 3 feasibility studies as performed for example in Sweden from 1992 to 2001. Step 4 corresponds to site investigations. Step 5 consists of the detailed investigations in the underground. Licensing starts only after Step 5. This is in accord with the practice in USA (cf. Yucca Mountain). The ILK believes, however, that a phased licensing process which begins before the start of any underground explorations is a more reasonable one. There are several reasons for this:

- The construction of the underground exploration facilities will affect the site.
- The local authorities and the local population want to know the independent opinion of the licensing authority on the safety requirements before the underground works start.
- The licensing authority is given the formal opportunity to place requests for special investigations that they may want to be performed during excavations and that cannot be made at a later stage.

Even the AkEnd recommends elsewhere *that the nuclear licensing authority should already be involved in Step 3* (p. 44), but does not mention this point in the description of the procedural steps (p. 16 ff).

Furthermore, considering the substantial cost for underground exploration (at the level of *billions of euros*), it is not clear to the ILK why the AkEnd proposes that two sites are to undergo underground exploration in parallel. Other countries such as USA, Finland and Sweden plan for only one site to be investigated from underground.

## 5 Criteria for the Selection of Repository Sites

### 5.1 Geoscientific Criteria

Steps 1 and 2 of the AkEnd selection procedure essentially involve a screening of the whole German territory applying geoscientific criteria. It is not obvious to the ILK why only geoscientific criteria are applied in these steps. If high-priority planning-scientific criteria were also taken into account, e.g. those taken from the field of nature and countryside protection, then the existence of a national park, for instance, could lead to the exclusion of an area from the very beginning.

The geoscientific criteria proposed by AkEnd (Chapter 5, Section 5.1) deserve some comments:

*A Large-area uplift of more than one millimetre per year* is one exclusion criterion in Step 1. This means that any area where there has been a large-scale glaciation will be excluded. The sites selected for further investigations in Finland and Sweden do not meet this criterion because they were covered by thick ice sheets during the latest glaciation and the ensuing uplift is still going on. Current uplift in Sweden for example amounts to maximum of almost 10 millimetres per year due to the latest glaciation. Nevertheless, these sites so far show good potential for hosting a deep repository and there is no harmful geological consequence of such an on-going large-area uplift. In the opinion of the ILK this criterion may cause exclusion of very good sites. At the very least, it has to be qualified in more detail with respect to the cause of the uplift and the general geologic setting.

Another exclusion criterion in Step 1 is that the groundwater must not contain any tritium or carbon-14. The ILK fails to understand how this criterion can be applied in Steps 1 and 2 and asks how reliable data can be obtained without performing underground investigations. The groundwaters of interest are those at a depth greater than 300 metres. Very careful sampling of such waters is necessary to ensure that these isotopes are not present. It is difficult to avoid bringing down these isotopes during drilling and when taking samples. Though the information value on ground-water age is acknowledged, the ILK has doubts whether this criterion can be applied in a reasonable manner at this early stage of the process.

Concerning minimum requirements on the rock type, a hydraulic conductivity not exceeding  $10^{-10}$  m/s within a thickness of rock of at least 100 metres is proposed. This probably excludes all crystalline rocks containing fractures. In particular, it will not be possible to assess and confirm the large-scale hydraulic conductivity without extensive investigations at a particular site. The safety analyses done by SKB in Sweden, Posiva in Finland and others have shown that it is possible to construct a safe repository in fractured crystalline rock without applying this minimum requirement. The ILK suggests that this criterion is unnecessary and may cause exclusion of suitable sites.

Another related minimum requirement is formulated as follows: *There must be no findings or data which give rise to doubts whether the geoscientific minimum requirements regarding field hydraulic conductivity, thickness and extent of the isolating rock zone can be fulfilled over a period of time in the order of magnitude of one million years* (p. 22). The ILK finds this requirement quite vague and difficult to apply. Over such a long period, there will be many uncertainties of diverse types. These have to be addressed in a Total Systems Performance Assessment. Such an assessment has to consider a broad spectrum of scenarios of future developments. It is not clear how it can be applied in Step 1 with any reasonable degree of confidence. Due to the sparse set of data available for any site that has not been subject to extensive investigations there will always be doubts on this point at this early stage.

Table 6 (p. 25) contains a number of geoscientific criteria divided into three groups. The text indicates that Group 1 should be given more weight than Group 2, which in turn is assigned greater importance than Group 3. The ILK fails to see the reason for this specific and detailed weighting of site areas or regions using these criteria at this early stage. Furthermore, the AkEnd admits the following: *Owing to the heterogeneity of the aspects influencing the assessment and due to the status of information at the time of the weighing process, the Committee considers it rather more appropriate that the aggregation of the individual assessment results from the three weighting groups should be done in a verbal-argumentative form* (p. 24). Some of the geologic properties and parameters will not be well known and it may be hard to assess whether a specific criterion according to Table 6 is met or not in Step 2. Radionuclide retention depends primarily on the type of radionuclide.

Some long-lived radionuclides are non-sorbing, for example chlorine-36 and iodine-129. In the opinion of the ILK, Table 6 has to be reconsidered and re-evaluated before it can be applied to Step 2 of the screening process.

Furthermore, an important insight which can be gained during the work on geoscientific suitability indicators and criteria is that one of the primary missions is and must be to explain the complex reality of the issues involved. Many different parameters of different disciplines have to be integrated in a safety assessment in order to judge the overall safety of the repository. It is obvious that the specific and quantitative requirements/criteria in the AkEnd report have been developed based on discipline-specific expertise (judgement) and not on insights gained from goal-oriented and integrated safety assessment work. The ILK thinks that a first, very “tempting”, conclusions about requirements on certain parameters are often revised when viewed from a multidisciplinary context.

## 5.2 Socio-scientific Criteria

The socio-scientific criteria (Chapter 5, Section 5.2) that are to be applied in Step 3 of the AkEnd selection procedure are discussed in the following. As a starting point it is said by AkEnd that *on the one hand, a repository should, if possible, not have a negative influence on the development potential of a region. On the other hand, the willingness of the population to take part in the search for a repository site should be high* (p. 28).

The first requirement (avoiding negative development) is further structured into so-called *planning-scientific* criteria (land use, land protection, special protection interests, etc.) and *socio-economic* criteria (regional development issues).

The planning criteria and their proposed application seem reasonable. The information needed to apply these criteria is available in the early stages. This is not the case for the geoscientific information, and care should be taken in the early stages to take into account, but not to overemphasise the planning criteria.

The socio-economic criteria and their application are difficult to comment on. Thus, for instance, the Swedish experience suggests a discrepancy between theory and practice. Experts in socio-economics often attempt to both predict regional development (for example with and without a repository) and to describe their predictions in terms of positive or negative development. In reality, fundamentally different views on how to define positive (or negative) development have been encountered. Thus it is difficult to agree upon criteria. The ILK underlines the importance of allocating experts and resources to the assessment of socio-economic development scenarios. Diversification of opinion, even among experts, should be ensured and local discussion of these issues should be stimulated. Conclusions, however, as to whether the socio-economic implications of a repository are good or bad should be the prerogative of local political actors. Attempts to provide “objective” criteria are probably not meaningful.

The views and conclusions reached by local politicians, interest groups and individuals on socio-economic development indeed relate to the other fundamental requirement stated in Section 5.2, i.e., the willingness to participate. The key issue, however, is not the willingness to take part in the search for a repository site (as stated on page 28), it is the willingness to actually host the repository. This was already discussed in chapter 3 of this statement.

## 5.3 Safety Proof

The discussion on criteria for the *safety proof*<sup>1</sup> (Chapter 5, Section 5.3) made by AkEnd deserves some comments. The first two paragraphs of section 5.3 state: *The safety criteria for the disposal of radioactive waste in a mine are currently being revised and updated. The selection of a site according to a qualified site selection procedure is one fundamental requirement that is to be contained in the updated safety criteria* (p. 36). The second part of this statement should be contradicted: The safety requirements on the repository are very high and must be applied to any proposed site independently of how the site was selected. The selection procedure, on the one hand, may be perfect

<sup>1</sup> AkEnd translates *Eignungsprüfung* with “safety proof” (p. 36); the ILK believes, however, that what indeed is meant is “feasibility” because for a - site-specific - “safety proof” a performance assessment is needed. Consistent with this interpretation is that *Eignungsaussage* is translated with “statement of the qualification” (ibid.).



in every respect, but once site investigations have been completed, it may turn out that the site is not suitable and must be abandoned after all. On the other hand, a site picked on very preliminary information may turn out to be excellent from a long-term safety point of view. Thus the fact that the final repository sites Konrad and Gorleben were not selected according to a procedure comparable to the one currently suggested by the AkEnd does not mean that these sites do not satisfy the high safety requirements placed on a final repository. The approach may be reasonable but there is no guarantee that the result of a *qualified site selection procedure* is a safe repository.

This vagueness is magnified by the following statement at the end of the second paragraph of section 5.3: *This process is referred to as geoscientific safety proof and is carried out by the implementer of the procedure with participation of the control committee and the public. All this has to be distinguished from the proof that has to be furnished and examined by the licensing authority in the subsequent nuclear licensing procedure* (p. 36). According to the ILK it is essential for the success of the process that the site selection procedure and the licensing procedure are coordinated, work towards the same goals and the same safety requirements as well as being part of the same overall integrated process. Thus the licensing authorities must accompany even the early stages of that integrated process, a point the AkEnd also recommends elsewhere (p. 44), and receive all information and findings that are important and relevant to them. This is indeed the case in other countries seeking a site and/or qualifying a site for a deep repository - for example Finland, Sweden, Switzerland and USA.

## 6 Next Phases of the Selection Procedure

Phase I of the selection procedure, the *Development of a selection procedure*, was completed with the publication of the AkEnd recommendations at the end of 2002.

Concerning the next phase of the procedure (Phase II, *Agreement on the selection procedure*, Section 7.1) the ILK recommends that several of the criteria proposed by AkEnd be reconsidered and revised in accordance with other countries' experiences. The ILK supports the suggestion of the AkEnd that *parallel to the Phase II an international group of experts should evaluate the proposed procedure* (p. 43).

As far as description of Phase III, the *Implementation of the selection procedure*, (chapter 7, section 7.2) is concerned the astonishing thing is that the AkEnd defines the roles of the implementer of the procedure and the decision maker for the site selection process, but deliberately does not state which institutions are to take on these key roles. The question one can ask is how the implementer could possibly be anyone but the future license applicant. Neither does AkEnd suggest how the proposed *control committee* is to be selected or appointed. As these three participants in the procedure would have key roles in implementing the process, it would be very reasonable to give them an opportunity to discuss and, if possible, to accept the rather difficult proposed procedure before they go to work.

If the sites Konrad and Gorleben are excluded, the timetable for the above mentioned three phases is characterised by a markedly optimistic view. In the implementation Phase III, Steps 1 through 4 that result in the selection of at least two sites for underground exploration, are allotted a time period of merely six years. This period furthermore spans two potential recourses (*steps backwards*) and two votes (pp. 8, 17). Experiences other countries have made do not suggest that the procedure will be on schedule with regard to the decision by the German Bundestag of December 2001, namely, *that by the year 2010 at the latest, one or more sites have to be named for underground exploration*.

## 7 Concluding Remarks

The safe final disposal of radioactive waste is a long-term programme and presupposes considerable efforts, apart from the merely technical challenges, both in the traditional political arena, among the implementers, the authorities and the public.

The ILK generally commends the AkEnd for attempting to develop a systematic procedure for solving the issue of radioactive waste disposal in Germany. However, the ILK considers the two general conditions set by the BMU on the AkEnd to be inappropriate:

- The AkEnd should ignore existing sites in its selection procedure and should proceed from a so-called white map of Germany. However, a licensed final repository for low and medium level waste already exists at the Konrad site. Additionally, a well characterised site for high level waste exists at Gorleben, which seems to have good prospects to fulfil the safety requirements. The ILK therefore emphatically recommends a comprehensive safety assessment for Gorleben be performed and a selection procedure that includes the mentioned facts concerning Gorleben be defined as well as the final repository Konrad be commissioned as soon as possible.
- The single-repository concept, a precondition of the AkEnd work set by the BMU, presents a considerable limiting factor in the site selection procedure. Furthermore, there are no technical or scientific grounds supporting it. The ILK therefore recommends considering separate final repositories for low and medium level waste as well as for high level waste. This is also in line with the international practice.

The ILK is furthermore of the opinion that the procedure proposed by the AkEnd has deficits in several key points that are summarized as follows:

- The ILK endorses the importance of public participation in the site selection procedure as well as local willingness to participate. A flexible response to local circumstances needs to be made when involving the public. A successful public participation can lead to success if the process of participation is perceived as fair and reasonable. Furthermore, the process must be shown to be sustainable in the long run and needs therefore to be carefully elaborated within the framework of laws and regulations. However, a successful public partic-

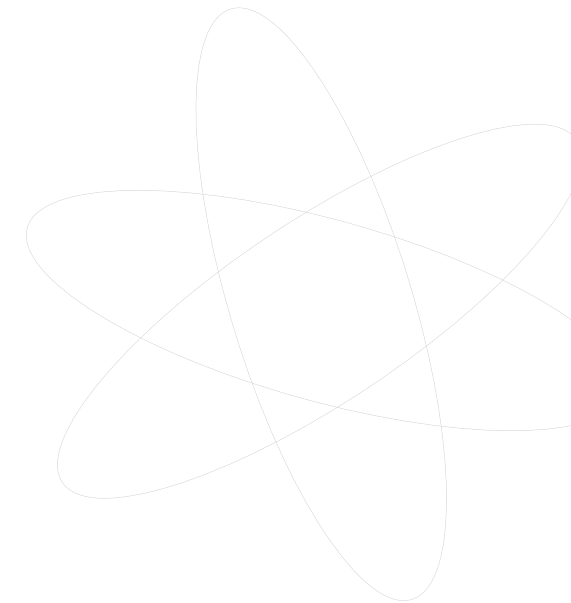
ipation does not necessarily mean that consensus must be achieved. The final decision on the site at the end of the selection procedure must be the responsibility of the government or, as recommended by the AkEnd, the responsibility of the parliament.

- The ILK underlines the importance of trust which the public should be able to have in the implementer, the regulator and the political bodies. The problem of final disposal cannot be solved without the trust that needs to be individually earned by every participating party. Seen from this context, the ILK calls the utility of the *control committee* as suggested by the AkEnd into question, since its diffuse role will not enable it to build up credibility and trust.
- The ILK supports the recommendation of the AkEnd that the licensing authorities, being trustees of the public and representing institutional continuity, should accompany the site selection process from the beginning and should be involved in the information exchange. This could also ensure that the site selection procedure and the licensing procedure are coordinated.
- The geoscientific criteria proposed for the screening of sites are to be reviewed and revised so that they can be applied in a prudent manner.
- The fact that the final repository sites Konrad and Gorleben were not selected according to a procedure comparable to the one currently suggested by the AkEnd does not mean that these sites do not satisfy the high safety requirements placed on a final repository.
- The ILK recommends that the AkEnd recommendations be reviewed by a group of international experts and thus supports the corresponding recommendation by the AkEnd.
- The AkEnd defines the roles of the implementer of the procedure and the decision maker for the site selection procedure, but it deliberately does not state which institutions are to assume these roles. The ILK welcomes AkEnd's efforts to clarify these matters and recommends a precise definition of the role distributions as soon as possible.
- The proposed timetable (two or more sites have been named for underground exploration by 2010) is too ambitious if the sites Konrad and Gorleben are excluded. A realistic timetable that allows for periodic reviews should be developed.

## Literature

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6. **Ing. Bo Gustafsson, Sweden**  
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8. **Prof. Dr.-Ing. habil. Wolfgang Kröger, Switzerland**  
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(Members are listed in alphabetical order)

**ILK Publications:**

- 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 the 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 Airlines 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-CD** CD with all presentations held at the ILK Symposium "Opportunities and Risks of Nuclear Power" in April 2001