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SKi SWEDISH NUCLEAR POWER INSPECTORATE
Office of the Director General

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Re. Comments on Strategic Assessment papers

Dear Jim.

Please find enclosed a few comments on the Strategic Assessment papers which I trust you will forward to the appropriate addressee within NRC as indicated in the papers

Best regards.

Lars H

U.S. NUCLEAR REGULATORY COMMISSION
DOCKETING & SERVICE SECTION
OFFICE OF THE SECRETARY
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SOME COMMENTS ON THE USNRC STRATEGIC ASSESSMENT ACTIVITIES

1. Introductory remarks

First, I want to congratulate USNRC on the strategic assessment initiative. It is timely with regard to the profound changes in national and international nuclear energy scenarios which have taken place.

Time and SKI workload have unfortunately made a consolidated SKI response impossible. Nevertheless, I have tried to compile a few personal comments, based on my own experience with SKI strategic planning. The following sections contain:

- Some general comments on direction-setting issues and regulatory strategies.
- Some specific comments on the Strategic Planning Framework Document.
- Some specific comments on the DSI 20 paper on International Activities.

The comments mainly concern the reactor safety and nuclear waste safety areas. I have found it difficult to comment on the safeguarding of nuclear materials except in some very general terms, as I am not familiar with the formal distribution of tasks between NRC and DOE.

2. Some general comments on direction-setting issues and regulatory strategies.

It might be of interest to compare the proposed NRC DSIs with strategic issues identified for SKI. With respect to safety issues, these SKI strategic issues include:

* Regulating the technical safety of existing operating plants over their technical life. This includes both control of degradation of components due to ageing and wear, and replacement of systems based on obsolete technology for which maintenance and availability of spare parts is becoming increasingly difficult. Moreover, it is necessary to reassess the original design analyses and safety cases (FSARs) in the light of modern computer models and data. The new reactor designs and design requirements now emerging (e.g. the future European PWR concept) will also inevitably cause politicians and the general public to raise questions related to safety upgrades also of western reactors built to the standards of the 1970's if these reactors are to be operated well into the 21st century.

* Ensuring high safety standards (safety culture) with regard to the operation and maintenace of existing plants in a new, more competitive utility environment after deregulation of electricity markets. A key issue will be the capability to attract and keep highly competent staff in a no-growth industry at the same time as the present 'pioneer generation' reaches retirement age.

* Implementing and licensing installations for final disposal of spent fuel and high-level waste. Successful completion of local political processes related to siting may prove as difficult as resolving some of the technical safety issues. International convergence on safety requirements and what is meant by 'reasonable assurance' of long term safety of waste repositories will be crucial for

public acceptance. The public will expect a high degree of active participation from the regulatory authorities in various local meeting activities, including hearings.

Strategies for the conduct of regulatory activities have to focus on the quality of the safety work performed by the licensees, as the primeresponsibility for safety always rests with the licensee, and regulatory bodies cannot control every detail. SKI has found that the appropriate tool-box for independent regulatory assessment of the quality of licensee safety work has to be further developed. A process-based approach has to be developed in a systematic way, where elements may include:

* Assessing the quality of safety work in selected areas by topical inspections carried out by mixed teams of inspectors, technical experts, and experts on the interaction between man, technology and organisation.
* Regulatory accrediting of certain licensee safety assessment and decision-making processes in a similar way that third-party control bodies are formally accredited after quality audits by a national accrediting body.
* Use of accredited third-party control bodies.
* In-depth regulatory reviews limited to major issues, such as major design changes.
* An internal QA system for the regulatory body designed according to modern industry principles to monitor the quality and efficiency of of various regulatory processes such as issuing of regulations, inspections, regulatory reviews and information to the public.

Indicators for measuring regulatory performance are a 'must' in a modern internal QA system. Also, consistency between objectives and resources is a 'must' that requires an informed dialogue with the political decisionmakers that have to reconcile their expectations of the extent of regulatory oversight with the resources they are willing to assign.

I find many similarities between the strategic issues identified by NRC and SKI.

3. Some specific comments on the Strategic Planning Framework Document.

I have no specific comments on the mission - vision - goals sections which I find relevant to the task given to a regulatory body like NRC. Of course, there is always the general question whether shorter and more striking language can be found in 'constitutional' texts like these.

As to Appendix II, The NRC's Safety Philosophy, I have the following comments:

* The definition of the defense in depth approach should be carefully checked against the definition in the recent INSAG report on defence in depth to ensure that there are no inconsistencies or ambiguities.

* Given the large uncertainties in cost-benefit analysis in the nuclear safety area - as demonstrated in most level 3 PSAs, I have always had some doubts related to its use in judging the soundness of safety requirements over and above some minimum baseline. I prefer the principle 'safety as high as reasonably achievable', where what is reasonably achievable is judged not only by some type of cost-benefit analysis for specific plants, but also on what has have been proven reasonably achievable elsewhere at similar plants.

* I welcome the weight given to accountability to the public. Regulators are ultimately given their task by the public, whose health and safety regulators are set up to protect. Therefore, regulators have to assign great importance to reporting back to the public and to active communication with the public on issues of concern to them.

4. Some specific comments on the DSI 20 paper on International Activities.

In judging NRC involvement in international activities, I think the following areas and issues are of key importance:

* Active participation in international cooperation on analysis of operating experience is of key importance to obtain the benefits of shared experience on ageing issues and identification of the rare precursors events that may warn for previously unidentified deficiencies in the defence-in-depth. Cooperation with countries operating reactors of closely similar design as the US reactors (i.e. the OECD countries) is especially important.

* Active participation in international technical cooperation among regulators, including research, will be equally important to the cost-efficiency of NRC, and even more important than in the previous decades, taking into account that the US does not have the same dominating position in nuclear technology development as it had then, and also in view of NRC budget cuts. Again, cooperation with OECD countries on a mutual benefit basis appears to be the most cost-efficient approach.

* Active participation in international nuclear safety policy development. I hope that the International Nuclear Safety Convention will provide an efficicient framework for such development as the convention was designed as an incentive convention to promote a process of developing and maintaining a high level of safety worldwide. NRC, with its experience and competence can be expected to play a major role in this process, and a role no other US agency can play. This safety policy development process needs to go on also in other fora than the formal review meetings under the safety convention. It is important that countries with advanced nuclear safety technology and regulatory systems take a lead in this development process.

* NRC involvement in actual support to nuclear safety development in the FSU and CEE should be financed and managed separately from other NRC national and international activities as discussed above. For example, SKI has set up a separate project organisation for such work, mainly using outside consultants. If there are severe budgetary constraints with respect to support to the FSU andd CEE, I think the US should focus on areas where they as the leading nuclear weapons state have unique competence, i.e. in the protection and handling of weapons grade materials, including use of materials from dismantled weapons for peaceful purposes.

Evidently, these comments point to NRC strategies in the international arena that include a mix of elements from the options discussed in the DSI 20 document.
