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| Advice from the Research Review Group on the 2009/10 NSR Programme | | | |

Purpose of the paper

1. The Atomic Energy Act requires HSE to approve each year a nuclear safety research programme coordinated with licensees. It is a requirement of the Atomic Energy Act that the HSE Board gives approval to ND to recover the costs of its nuclear safety research and its programme management from the licensees. The Board is being asked to agree to the coordinated programme discussed, and to approve an ND programme of safety research in HSE/09/51. This report from the Research Review Group (RRG) provides advice to the HSE Board on the adequacy of the programme proposed for 2009/10.

Background

2. Responsibility for nuclear safety research was transferred in 1990 from the former DTI to HSC. The programme arrangements required the Nuclear Safety Advisory Committee (NuSAC) to provide advice to HSE on the adequacy and balance of a programme coordinated by the Nuclear Directorate (ND) with the nuclear licensees. NuSAC, through a Review Sub Group (RG6), reviewed the arrangements and was informed about the detail of the programme by ND and the licensees. It was on this basis that it formulated its advice.
3. Although NuSAC ceased to operate in October 2008, the sub group has been reviewed and re-formed as an ad hoc group until new governance arrangements are agreed. The group has been re-titled the Research Review Group (RRG), has the same membership but has updated Terms of Reference. The RRG offers its advice through this paper here.

Argument

4. Research into operating reactors remains at a mature stage, although there has been increased interest in the long term behaviour of steel and graphite, stimulated by a BE interest in reactor lifetimes. The situation is satisfactory from a safety perspective.
5. The NDA has sponsored the production of Technical Baseline underpinning Research Documents (TBuRDs) for the fourth year. These set out the long term site plans, identify any knowledge gaps, and show the R & D expected to provide the solutions. The standard has improved year-on-year; they are fit for purpose, and are now integrated into the planning process. This is a real

success story. Consequently, they provide a snapshot of the state of play at a given moment.

6. Inevitably, it is not possible to address all R & D issues at the present time. The NDA has developed its Safety and Environmental Detriment (SED) process, which aims to show the relative importance of different project work streams from a safety perspective. This is based on factors such as the condition of the facility, the mobility of the waste, and the associated level of activity. Use of this tool will help to ensure that available effort is being appropriately allocated, although it may need to be adapted for use when looking just at research topics.
7. Efforts to develop skills and to import knowledge from elsewhere now include the DIAMOND consortium of universities, sponsorship of PhD bursaries, and involvement with international collaborations/funding bids.
8. Previous NuSAC reports have stated that the condition of non-reactor R & D is adequate, but have pointed out the fragility of the arrangements and the need for encouragement. The whole topic of nuclear R & D would benefit by a more transparent presentation of objectives, targets and progress on an annual basis to judge whether real progress is being adequately made. This applies to the development of skills, the provision of infrastructure and to actual technical progress. There are no significant changes to risk from a safety perspective this year, but appropriate progress must be made before current arrangements deteriorate.
9. The RRG is pleased to note that the uncertainty surrounding the management arrangements for the National Nuclear Laboratory has been resolved. The decision on whether to commission the facilities intended to handle plutonium and high level waste is still outstanding.
10. The fragmentation of the industry over the last 2 years has inevitably changed relationships between former colleagues, making some contact less easy. However, this should be balanced by the import of knowledge and expertise from a wider base of organisations. This issue will require attention in the future.
11. The NDA sponsored Nuclear Waste Research Forum continues to operate and bring together personnel from the different sites. There have been some successes with short term practical issues.
12. The NDA's Radioactive Waste Management Directorate (RWMD) has organised public consultation and workshops to help to develop its approach to the provision of underground disposal. RRG has provided input to these events, and welcomes these transparent initiatives.
13. It will be important to ensure that technical knowledge is of a good standard, and sufficiently comprehensive. It will have to withstand public scrutiny. Nevertheless, RWMD will have to avoid imposing apparently 'excellent' research and processing requirements if they are not practicable. There is

some urgency in processing some of the wastes, and the situation cannot be allowed to drift.

14. This year, the Committee on Radioactive Waste Management (CoRWM) work programme has involved the production of a report into the R & D relevant to waste disposal and storage. The draft report is now undergoing consultation. The RRG has been closely involved with its production, so it contains many of the points discussed here. There is no conflict of view, but the issues are likely to receive more public attention. Coordination of the needs for disposal as well as safe keeping (including wastes from MOD) will be important.

Conclusion

15. The R & D needed to support the nuclear industry is now much better defined. Effort is being made to tackle the most significant knowledge gaps, and also to provide the skills and infrastructure for tomorrow. RRG advises that generally the right issues are being addressed. However, the subject would benefit from a more transparent presentation of all the aims, in some detail, so that the adequacy of progress could be judged against a programme. Critically, there are many areas where solutions are still sought, and they must be provided on an acceptable timescale.

Presentation/Consultation

16. The Chair of RRG has sought advice from members, and taken account of discussions at its meeting of 9 March 2009. There have also been meetings with CoRWM, site visits, and discussions with NDA that help to form this advice.

Financial/Resource Implications for HSE

17. HSE recovers all its research and management costs from the nuclear licensees and from other nuclear companies. There is an overall neutral cost of the programme to HSE.

Action

18. The Executive Board is requested to take account of these views in its consideration of paper HSE/09/52.

Paper Clearance

19. The paper was produced by Peter Manning, Chair of RRG and was cleared by the SMT meeting of 3 June.