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## NUCLEAR SAFETY ADVISORY COMMITTEE

### Review of NDA funding issues

#### A Paper by A R Webb

(on behalf of Review Group 3)

### EXECUTIVE SUMMARY

1 This paper is a report to NuSAC members on the findings of the RG3 investigation into NDA / Site Licence Company funding issues raised at the July 2007 meeting. Funding issues within the industry have clearly had an effect on staff morale and contractor confidence but, importantly, no short term reduction in safety performance has been observed. We believe the current level of NDA funding is sufficient to maintain safety in the nuclear industry in the short term.

2 Whilst the immediate hazard at sites is being contained, there have been substantial slippages in the programmes to retrieve and to process wastes. This implies that the current hazard level will exist for much longer than intended. The slippage starts from Sellafield, and is due to:

- Poor performance of operating plant;
- Delays in developing and making available the essential new processing routes; and
- Budget restrictions and reallocations.

Consequently, there remains a lack of confidence that the high hazards are being tackled to a robust programme.

3 Each site is licensed individually and must at all times show that risks are being reduced so far as is reasonably practicable (SFAIRP). It is also important to recognize that it is Government policy and a regulatory principle that decommissioning should take place as soon as is reasonably practicable (ASARP) taking relevant factors into account. There is evidence to suggest that decommissioning and hazard reduction at some sites are projected to take place at a slower rate than anticipated when the NDA was established and NuSAC is not convinced that this has been fully justified.

4 Despite best efforts there appears to be no clear consensus on what represents the minimum level of funding during the next few years to keep sites safe

in the longer term and to carry out essential decommissioning work. Likewise, there is a conflict between spend on research and development (R&D) or Capital projects which will yield benefits in the future and spend on today's immediate operations. We consider it important from a safety perspective that these are resolved as effectively as possible.

5 Skills retention will be a key issue, especially given the S3 (Safe Secure Sites) programme in preparation for the Magnox sites. This programme involves investigating benefits and consequences of putting sites under a care and maintenance regime for some years and completing decommissioning at a time in the future yet to be determined.

## **BACKGROUND**

6 During the July 2007 meeting of NuSAC questions were asked regarding the current position on NDA funding and how NDA proposes to ensure the safety of UK nuclear sites going forward. Additionally there was concern regarding whether the current funding levels are sufficient to maintain nuclear safety, allow the Site Licence Companies (SLCs) to meet their regulatory obligations and retain essential skill levels.

7 The Sellafield SLC's response to the question was that funding was a pressure for Sellafield Ltd, particularly to meet the NII specifications on legacy ponds and silos. They commented that *"difficult and balanced judgements were being made in the circumstances, but could not guarantee that safety would not be impacted."* Additional concerns had been raised during routine visits to Magnox sites by NuSAC Review Groups 1 and 3 during June and July 2007.

8 The NDA replied *"that there had been redistribution of funding between sites, but the overall level of funding was being maintained and was expected to increase. Regulatory requirements for nuclear safety were always the first priority for funding. Where cuts had been made they were to work programmes that were not related to existing or potential future regulatory requirements. It was inevitable that low hazard sites and facilities (e.g. defuelled reactors) receive less funding than those where hazards are higher (e.g. Legacy Ponds and Silos at Sellafield)."* The NDA acknowledged that the process of redistributing funds had been unsatisfactory for SLCs and assured NuSAC that lessons had been learnt. There still remains the issue of the safety responsibilities of licensees and hence legal accountability. Where funding restrictions are made, a degree of control becomes assumed.

9 As a result of the discussion at the July 2007 meeting it was agreed that the NDA would give an update on the position regarding funding at the October 2007 meeting of NuSAC. NDA Observer reported on the NDA's funding submission under the Comprehensive Spending Review (CSR) 2007 on which they awaited a response. He stated that NDA would work up spending plans when they knew the CSR outcome. Hazard reduction would be a priority.

10 It was agreed at the October 2007 meeting that NuSAC, via Review Group 3 led by Anthony Webb, would instigate its own review and report back to the main

Committee. A formal note summarising findings will be sent to the Health and Safety Executive . An update was provided to the April meeting. Formal presentation of the paper was deferred to the July 2008 meeting.

## **REVIEW**

11 NuSAC's review of funding took the form of:

- A retrospective review of the advice given by NuSAC (and its predecessors) at the time of the formation of the NDA. (A separate paper has reviewing this has resulted)
- General site visits by Review Groups 1 and 3 and others as appropriate.
- Specific, focused visits to the Sellafield SLC, Magnox Electric Directors, UKAEA, the Nuclear Installations Inspectorate, the Environment Agency, the Nuclear Decommissioning Authority and the Department for Business Enterprise and Regulatory Reform.

12 The prime questions addressed in the review were:

- Is the NDA funding sufficient to maintain safety in the UK nuclear industry?
- Is the money appropriately allocated between sites to preserve safety?
- Is the money properly spent to maintain safety?

These visits and meetings took place between June 2007 and May 2008.

## **FINDINGS**

### **Previous NuSAC Advice**

13 In July 2004 NuSAC submitted a series of recommendations to the HSC regarding the establishment of the Nuclear Decommissioning Authority. A recommendation regarding finance was financial and safety accountability should reside in a single entity at the level at which regulation operates. There are a number of interpretations of this but it is clearly still a point of debate, particularly following the NDA's redistribution of funds for 2007/08.

### **DISCUSSIONS WITH LICENSEES (INCLUDING SITE VISITS)**

14 As a general point it was clear from discussions with licensees that the issue of funding is critical, emotive and open to different interpretation by different parties.

15 Site visits carried out during 2007 indicated significant concerns about the uncertainty of NDA funding over coming years. Some sites had been badly affected by the site specific budget cuts for 2007/08 causing slow down of waste management projects and the general hazard reduction programme. There was no evidence during these limited visits that the funding issues had any material effect on

the safe running of the nuclear licensed site and their operations, which is a credit to the operators. However we remain concerned about the potential long term safety impact and would expect to see a strategy for positively mitigating against it.

16 It should be noted that this stop-start approach is disappointing for contractors, particularly when they had been asked to mobilise for an accelerated decommissioning programme. It also raises questions about the availability of/interest from high quality contractors for future contracts and the potential impact on safety standards achieved.

17 There was concern at the level of oversight by the NDA with some licensees citing that over 90% of projects required formal submission and approval prior to implementation.

18 The issue of complex long term decommissioning commitments out into the future when viewed against short term funding was seen as a mismatch. (This is covered in more detail in the National Audit Office report on the NDA - 30 January 2008.) Some licensees made a strong play for a significant increase in funding, but were clear to stress that the current position did not present an unsafe situation.

19 Interpretation of the Life Time Plans (LTPs) and possible mismatches of understanding and interpretation between the SLCs, the NDA and the CSR discussions with Treasury were seen as an issue. This was particularly noticeable at the Sellafield SLC. At the beginning of 2007 there was a difference of about £120m between the Sellafield funding requirement based on the LTP and the NDA budget allocation. Following review, deferrals and deletions the shortfall stood at £50m in September 2007. The SLC believed the projected shortfall over the next three year CSR period was £750m. There was also clear evidence that R&D was being curtailed, and that essential infrastructure upgrading was being deferred.

20 The main effect of the NDA changes had been felt by Magnox South and by the UKAEA's Harwell and Winfrith sites. Both Magnox North and Magnox South had been asked to study what cuts were feasible if plant were to be put in a "legal, safe, care and maintenance state asap". It is important to note that both companies have been told their funding is secure against previously agreed levels for 2008. In addition it was stated that there was no current safety hazard resulting from the budget reallocations, however there is clear concern over the long term implications.

21 With limited availability of funds it is evident that a balance needs to be struck between annual spend rate and total cost of site decommissioning. The planned reductions in annual spend will significantly increase the total liability for Magnox sites.

22 The NDA view that the Magnox sites can be taken down to a minimum spend "care and maintenance" state (S3 programme) and then be ready (in 5-10 years time) to re-start the decommissioning programme at short notice if and when the money is made available is regarded as unrealistic by licensees.

23 NuSAC questioned the current position regarding the Magnox Operating Plan (MOP). It was confirmed that fuel was not being taken out of reactors into fuel ponds unless there was a guaranteed exit path from site to Sellafield.

24 Responsibility for managing the MOP had been allocated to Magnox. However, they are not in a position to determine priorities at Sellafield when problems occur. It was recognised MOP is owned jointly by its contracting parties (SLCs). NDA will continue to sponsor the maintenance of MOP as a foundation of the LTP's. In endeavouring to attain a greater level of certainty the completion date for Magnox reprocessing had been put back from 2012 to 2016. This is not seen as desirable but recognises that the fuel handling plant (FHP) line at Sellafield is the limiting step with currently only 30% up time. The position has been further complicated by the non-predicted corrosion of the Highly Active evaporators that serve both Magnox and THORP. Whilst new evaporator capacity will eventually be provided, it represents another demand for funds and a restriction on current capability. The responsibility and management of the MOP needs continued focus.

25 At Harwell and Winfrith the funding cuts were such that it was necessary to make staff compulsorily redundant. No direct short term safety issues were identified but this was because UKAEA had made considerable efforts to ensure that there was no deterioration in safety performance. There was clear concern about the impact on safety in the longer term.

26 In January 2008, UKAEA received a specification from the NII requiring them to comply with the decommissioning programme for Harwell and Winfrith originally established in LTP 2006 or justify the change to deferred decommissioning. NII is very clear that affordability is not a relevant factor in decommissioning plans. This clearly contrasts the site facing regulatory requirements which are uncapped by affordability and the NDA facing Energy Act duties. The challenge facing UKAEA is thus how to justify deferral following a significant reduction in funding without taking affordability into account. UKAEA now see a need for a period of funding stability. They do not think it would be possible to return to a programme of accelerated decommissioning if funding were suddenly increased.

## **DISCUSSIONS WITH REGULATORS, BERR AND NDA**

27 The regulators indicated that they were aware of the current challenges, particularly at Sellafield, and the potential shortfall over the next 3 year CSR cycle. A key problem was seen as one of assuring continuity of funding into the future as projects are much longer than the 3 year CSR period. Significant upfront investment is needed. The potential effect on Magnox stations if funding was diverted towards the Sellafield SLC over the 10-15 years was also very apparent. ALARP considerations would be important. Work will be required to assess the competing claims of different sites. Overall site impact assessments were currently being worked on.

28 The approach was to encourage the licensees to investigate and specify what the potential changes would mean in real terms. This would allow the regulators to take a view based on fact rather than emotion. The consequences on people's motivation and retention were also recognised as key issues into the future.

29 NuSAC asked if regulators saw the current financing model and the licensing arrangements between the NDA and SLCs as working, particularly when referring back to the comments made by NuSAC to the Commission at the time of establishing the NDA in 2004/05. The current difficulties were acknowledged and it was stated that alternative models were possible under the current legislation (e.g. licensing the NDA), although it was doubtful these would be favoured by either the Government or the NDA.

30 At the time of the meeting it was believed there might be a change in governance arrangements covering the NDA in the near future. This was subsequently confirmed in a move from BERR to Shareholder Executive for financial control and governance.

31 The difficulties of operating the Sellafield site and maintaining focus on safety during the funding debate and the competition for the new PBO were seen as significant. The following was in the process of being implemented by way of mitigation:

- Independent Directors were being appointed to the SLC Board;
- A better partnership between the NDA and Sellafield management teams was being encouraged; and
- The Sellafield MD would focus on operating the plant whilst the BNFL CEO would take a greater role in outward facing requirements.

32 Regulators indicated they had strong links with Defra, BERR and the NDA in development of the current funding strategy. However there was a strong view that the 2007 CSR submission had been made in some haste and although there was good engagement of regulators at site level the national balance had been missed.

33 There existed strong concern regarding the management of the deferred sites (asset care and maintenance, mobile wastes, etc.). Programmes agreed through the LTPs (and previous QQRs) had been changed substantially without obtaining approval from regulators. There was a danger that the NDA's actions on funding could undermine the safety responsibilities of the licensee. With apparent moving goal posts there was a loss of confidence from some licensees, which did not help drive the desired innovation.

34 Discussions with Government outlined the background to the CSR settlements of 2004 and 2007. The support of Deloitte Touche and AD Little had been engaged during the 2007 settlement discussions. This had proved helpful and added a further degree of independence.

35 Although the 2007 CSR settlement had proved problematical the NDA had received an increase in allocation. It was acknowledged that Sellafield SLC remained concerned that they had not been granted sufficient funding and UKAEA that their funding would be significantly cut due to the concentration on high hazard plant at Sellafield. The Magnox position was viewed as passive in a management sense.

Government were at pains to stress that in their view a tough settlement did not necessarily equate to a challenge to safety. NuSAC are of the view that Government needed to be more proactive in assuring there was no challenge to safety resulting from the funding settlement.

36 It was clear a lot of work had been done to fully understand the position even if consensus had not been reached on the position of Sellafield SLC funding and the apparent £750m “shortfall” between LTP07 and CSR 07.

37 It was confirmed that the responsibility for financial governance of the NDA had transferred to the Shareholder Executive who were considered better resourced to manage it, policy direction remaining with BERR.

38 During discussions with NDA, the current approach to the ranking of hazards and how it was used in the reallocation of funds was seen as a key concern. It was seen as somewhat crude and not easily transferable across different companies and licensees. This view concurred with that of the regulators. NuSAC confirmed that whilst it may well have views on the performance and model of the NDA it was the implications for and effect on safety of the UK nuclear industry which were its remit and prime concern.

39 Following a period of reorganisation the NDA had appointed a new Head of Health, Safety, Security and Environment (HSSE) within the Assurance function. The programmes to control spend and manage contracts were leading to a greater level of granularity. It was stressed that it was absolutely clear that with respect to matters of immediate safety licensees were in a position to authorise the necessary spend without reference to the NDA. We remain concerned about the potential long term effect on safety and would encourage the NDA Head of HSSE to address this very carefully.

40 Net efficiency targets set by the NDA had been met by the licensees during 05/06 and 06/07. Prior to the latest CSR submission a system of categorising spend had been established. This had three categories of non-discretionary spend and one for discretionary spend. Although this system had been established with input from relevant regulators it was somewhat crude. A more detailed “value framework” was currently being worked on with the aim of it being available for use in developing the next NDA spending submission, business plan and Strategy. NDA have been asked to update NuSAC on progress on this key area.

41 Given the nature of the nuclear industry and its long term requirements it was felt that some projects e.g. High Active Liquors (HAL) at Sellafield, would benefit from a longer term cash commitment and hence more certainty than provided by the 3 year funding review cycle.

42 Ownership of the MOP was discussed following Magnox Electric comment regarding lack of prioritisation. It was recognised as an issue for the contracting parties (SLC’s) to manage going forward with the NDA acting in a sponsorship role as part of an agreement which underpins the SLC’s LTP’s.

43 NDA commented on the first joint meeting between the NDA, Sellafield SLC, NII and EA. This was seen as very productive. NuSAC questioned why it had taken until now, nearly 3 years after the formation of the NDA, for this to take place. The framework is relatively new and untested and its effectiveness will rely heavily on the relevant parties to have common goals and work constructively together.

## **CONCLUSIONS**

44 Although we are not in the position to review all financial allocations, spending plans and future programmes, our visits and discussions have allowed NuSAC to draw some general conclusions.

45 We believe the current level of NDA funding is sufficient to maintain safety in the nuclear industry in the short term. The Treasury will always have conflicting pressures but it is encouraging to note the increased funding from previous years despite the shortfall in income from, for example, THORP. However, we remain concerned about the potential effect on the longer term safety of the industry and would like to see evidence of a positive consideration, involving both the SLCs and the NDA, to ensure funding pressures do not result in the reduction of the programmes and resources necessary to underpin longer term safety.

46 With respect to the allocation of funding to high hazard and risk areas we believe this to be appropriate. A notable caution is the effect of the planned programmes for the Magnox sites, Harwell and Winfrith. Putting the Magnox sites in a safe and secure care and maintenance position is obviously achievable. Bringing them out of that state and safely decommissioning them at some undetermined point in the future will be challenging and clearly require advanced planning and preparation. At Harwell and Winfrith delays in completing decommissioning will mean spending considerably more to reduce what are, in relative terms, low hazards and risks.

47 We believe the current spending patterns within the industry are acceptable to provide a safe industry in the short term. However, neither the Sellafield site nor the Magnox and UKAEA sites have sufficient funds to execute their plans as intended. As a result we note significant reduction in R&D, postponement of key projects and some poor performance in meeting scheduled targets. Examples of this include limited reactor defuelling due to the limit on fuel stocks in the Sellafield FHP line, Magnox site activities limited by reduction of funds and the MOP extended by 4 years. The overall effect is that the hazard reduction at most sites will proceed at a slower pace than envisaged when the NDA was set up.

48 It is NuSAC's view that relationship management is critical and from evidence presented needs more focus and attention if the industry is going to operate safely and effectively. In particular the so called "golden triangle" between the NDA, regulators and licensees must be improved to ensure and demonstrate that decommissioning is being effectively planned, budgeted for, and implemented. At present. Licensees believe they are caught between a rock and a hard place in terms of funding restrictions against regulatory requirements. Regulators are concerned that the licensees should keep the correct balance between being client-facing and fulfilling their responsibilities as licensees.

## RECOMMENDATIONS

49 The shift of funds away from Magnox and UKAEA to Sellafield, whilst understandable in terms of a need to focus on higher hazard sites, should be carefully monitored. The NDA and SLCs should establish minimum funding levels as a matter of priority.

50 Each site is licensed individually and must at all times show that risks are being reduced so far as is reasonably practicable (SFAIRP). It is also important to recognize that it is Government policy and a regulatory principle that decommissioning should take place as soon as is reasonably practical (ASARP) taking relevant factors into account. The reasons for the slippage in programme should be understood by all those involved. SLCs and the NDA should state what preventative actions have been put in place to ensure the same outcomes do not recur. NuSAC should request a paper from the NDA outlining these actions within the next 6 months.

51 NuSAC, through Task Force 1, should review the interfaces between SLCs, PBOs, NDA, NII, EA, SEPA, BERR and other government departments and devolved administrations to ensure that relevant parties have common goals and work constructively together. This should be undertaken on a site, regional and central basis. Site based interfaces will be with the Site Director/ EHSS Heads, regional interfaces with SLC management e.g. CEO and regional NDA Directors, and central interfaces with BERR/Defra and HQs of NDA and the regulators.

52 A more formal demonstration that the current funding approach is not putting the longer term safety of the UK nuclear industry at risk is required and needs to be built into the operating regime of the NDA and the SLCs. NuSAC should seek a paper from the NDA on this topic within the next 6 months.

53 Longer term skills retention should be recognised as a key issue. This is especially the case at Magnox and UKAEA sites if completion of decommissioning is delayed many years. NuSAC should periodically (annually) seek an update from the SLCs, NDA and NEXIA.