

# NEW NUCLEAR MONITOR

A Nuclear Free Local Authorities Briefing

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## THE CASE FOR STAKEHOLDER REVIEW AND PUBLIC PARTICIPATION

The Cabinet Office Performance and Innovation Unit (PIU) has published a 'scoping note' on nuclear power which signals a possible shift in Government policy<sup>1</sup>.

The PIU characterises current policy as 'neutral', where decisions on new build are left to the private sector operating in a competitive electricity market. It concludes that this is unlikely to lead to the construction of new reactors.

Although not ruling out continuation of current policy, the PIU suggests the UK could switch to other policy positions, including:

- **WEAK SUPPORT:** treating nuclear more favourably than fossil stations because of its contribution to carbon reduction. Decisions would still be left to the market. Whether this would lead to new build would "depend in part on the degree of support".
- **STRONG SUPPORT:** involving a clear commitment to new build, through some sort of obligation or direct financial support from Government.

This issue of *New Nuclear Monitor* argues that a policy switch to weak or strong support for new build cannot be justified. It proposes, however, that the case for new build should be kept under active review by a stakeholder review panel. The panel should: explore public acceptability issues; investigate key technical and economic issues; and monitor international developments.

## **WHY A POLICY SHIFT WOULD BE PREMATURE**

There are too many risks and uncertainties to justify a shift in policy to support new nuclear build. These risks and uncertainties involve questions of public acceptability and a range of technical and economic issues which cannot be adequately investigated or resolved within the six month timeframe of the PIU energy review<sup>ii</sup>.

Major questions of public acceptability concern radioactive waste management and reactor safety. On the former, the PIU refers to the extreme difficulty of siting new storage or disposal facilities, and asks whether compensation for local communities could have a significant impact<sup>iii</sup>. This is an important question, but it can only be answered as part of a substantive programme of policy development on radioactive waste management, which has a strong commitment to public participation and deliberation. In the light of key stakeholder support<sup>iv</sup>, it appears likely that the required programme of policy development will be initiated by the Government over the coming months. The relationship between this programme and the case for new build is discussed below.

On reactor safety, the PIU invites views on current and prospective risks, and on public attitudes to risks<sup>v</sup>. Although this invitation is to be welcomed, a more active exploration of public views is required. In particular, there is a need to explore concerns that widespread public acceptance of new build requires an absolute assurance that a reactor accident could not have off-site consequences, rather than place reliance on statistical estimates of accident frequency<sup>vi</sup>.

Serious technical and economic issues arise for a host of reasons:

- There is no international experience of full-scale construction or commercial operation of the new generation of reactors, such as the AP600, AP1000 or, potentially, the PBMR. This lack of experience - combined with novel reactor design features - lead to substantial risks and uncertainties in regulatory requirements, construction costs and reactor performance. This situation exacerbates disputes between experts about the competitiveness of new build<sup>vii</sup>.
- The lack of policy on the long-term management of radioactive wastes means that technical requirements and cost models are characterised by great uncertainty. Although this uncertainty may not impact substantially on estimates of the 'levelised cost' of electricity from new reactors, significant increases in 'back end' costs after a reactor has been operating for a number of years are highly undesirable because it is unlikely that they could be met by income from future electricity sales.
- There is concern within the industry that new reactor and fuel cycle designs must become more proliferation-resistant to help secure its future. A considerable amount of research is underway on technical options for increasing proliferation resistance<sup>viii</sup>.

It would be premature, to say the least, for the PIU to conclude that there is a case for a shift in policy to support new nuclear build. However, it would be logical for it to recommend that there is a need to keep the case for new build under active review.

## **PROPOSAL FOR A STAKEHOLDER REVIEW PANEL**

The issue arises of what would constitute a desirable mechanism for active review of the case for new nuclear build. The priority here is to set up a form of on-going review which engenders public confidence. Research shows that for nuclear-related issues the public favours review mechanisms which are open, transparent and critical, and involve a wide range of stakeholders<sup>ix</sup>.

It is therefore proposed that a review panel be set up, which:

- includes stakeholders from Government departments, the nuclear industry, the regulators, the trade unions, local authorities, environmental NGOs, public interest groups and academic institutions;
- develops and oversees a programme to explore public acceptability issues, investigate key technical and economic questions, and monitor international developments;
- regularly publishes its work in these areas; and
- publishes annual advice to Government on the case for new nuclear build<sup>x</sup>.

This proposal is consistent with key perspectives in the PIU's scoping note. Indeed, the PIU states that:

Public attitudes to nuclear power could be affected by the process of decision-making. The nuclear industry is widely perceived as having a history of secretive decision making, in collusion with governments which may sometimes own the facilities in question. The industry in the UK is now putting greater efforts into structured stakeholder dialogues to achieve a more participatory style of decision-making ..<sup>xi</sup>

A Government-sponsored stakeholder review panel could complement and extend such efforts, and help generate public confidence in policy development.

## **EXPLORING PUBLIC ACCEPTABILITY IN 'FRONT END CONSULTATION'**

The importance of public acceptability issues to the future of nuclear power is widely recognised within Government. In its 'initial contribution' to the PIU review, the DTI has written that "... the issues of public acceptability and regulatory risk need to be resolved as well as the economics for new build to be a realistic option"<sup>xii</sup> A similar position has been articulated by the Environment Minister, Michael Meacher:

There are currently no proposals for new nuclear power stations in the UK, largely due to nuclear's inability to compete on costs grounds with other types of generation. Issues related to waste disposal and public acceptability would also need to be resolved before industry put forward any proposals for approval.<sup>xiii</sup>

There is growing recognition that the essential first step in assessing public acceptability issues is to facilitate public involvement in the *framing* of any assessment programme. The Royal Commission on Environmental Pollution, for example, has pointed to the importance of ensuring that public values are articulated at the earliest possible stage of policy formulation, so that they can be taken into account in establishing the framework of assessment<sup>xiv</sup>. The Commission explains that the articulation of public values is particularly relevant to the identification and clarification of key issues, and the way they should be pursued. It also warns that "exclusion from the initial framing of the problem

disempowers people”. Similar cases have been made by the Parliamentary Office of Science and Technology<sup>xv</sup>, and by academic specialists<sup>xvi</sup>.

In order to facilitate public involvement in establishing frameworks of assessment the concept of a ‘Front End Consultation’ (FEC) has been developed. The purpose of a FEC is to identify and understand public views, and to explore the principles, values and criteria that should be fed into subsequent stages of assessment. An example of a FEC is provided by the MoD’s approach to Project ISOLUS, which is seeking to identify a preferred option for the interim storage of nuclear submarine reactor compartments. This FEC has involved a series of stakeholder workshops, focus group discussions, a citizen’s panel and website consultation<sup>xvii</sup>.

It is proposed that one of the first tasks of the stakeholder review panel should be to set up a FEC. This could explore public views on the relationship between the case for new build and a range of key issues, including radioactive waste management and reactor safety (as indicated above), and other important questions identified by the PIU<sup>xviii</sup>.

## **EXPLORING THE RADIOACTIVE WASTE DILEMMA**

As explained in the first issue of *New Nuclear Monitor*, there is a considerable body of opinion that a ‘solution’ to the long-term management of radioactive waste needs to be found before new build is allowed to proceed<sup>xix</sup>. What is not clear, however, is what the public would consider to be a ‘solution’. This might, for example, range from the establishment of clear Government policy on long-term management, to securing planning consent to site a new facility for storage or disposal, construction of the facility, or emplacement of first wastes. The question of what is judged to constitute a ‘solution’ should be explored through public deliberation.

Recent research on public attitudes to radioactive waste management throws up an even more radical challenge: that the achievement of a ‘solution’ to long-term radioactive waste can be viewed as *requiring* no new nuclear.<sup>xx</sup> In other words, rather than a radioactive waste management ‘solution’ being a pre-requisite for new build, a decision to cap the production of wastes in the nuclear industry is seen by sections of the public as a pre-requisite for achieving a radwaste ‘solution’. Here, then, is a critical issue that must be addressed through further public deliberation.

To date, the PIU appears to have only scraped the surface of the potential difficulties raised by public views on the relationship between the future of nuclear power and radioactive waste management. These difficulties must not be brushed under the carpet. Instead, they should be fully explored in a public participation programme established by the proposed stakeholder review group. Failure to do this will increase the likelihood that ‘downstream’ siting proposals for new reactors or waste management facilities will face concerted public opposition.

This proposed programme of public deliberation will need to be coordinated with, or take account of, similar initiatives organised as part of the impending radioactive waste management review.

## **THE INVESTIGATION OF KEY TECHNICAL AND ECONOMIC ISSUES**

The findings of the proposed FEC should also be used by the stakeholder review panel to identify priorities for investigative work on technical or economic issues. The aims of this investigative work could be to: help reduce uncertainties; reduce the scope for disputes between experts; engender public confidence; and provide a robust basis for policy making. Public deliberation during the FEC might identify other aims.

There are a number of potential ways of proceeding with required investigations, including:

- ‘Balanced Interest’ Expert Panels or Workshops: where the stakeholder review panel oversees the convening of an expert panel or expert workshops with the purpose of producing a ‘consensus’ report. In order to engender public confidence in the outcome, ‘critical experts’ from outside the industry or government should be involved.
- ‘Jointly Commissioned Studies’: where the stakeholder review panel commissions a study on the basis of agreement within the panel about who should undertake the study, its terms of reference, methodology and key assumptions<sup>xxi</sup>.

The stakeholder review panel should select the approach most appropriate to the issue that requires investigation. Whichever type of approach is chosen, key features of the investigation should include: the systematic assessment of uncertainties; the identification of significant areas of agreement and disagreement; assessment of how uncertainties and disagreements can be reduced (and over what timescales); a strong commitment to peer review; and the early publication of findings for public comment. These features are a necessary part of the process of ensuring the soundness and legitimacy of an investigation’s findings.

The first issue of *New Nuclear Monitor* identified a number of issues which would benefit from such an approach, including assessments of: the cost of electricity from new plant; the regulatory risks associated with new build; ways of meeting requirements for enhanced proliferation resistance; and the potential role of nuclear power in enhancing security and diversity of supply<sup>xxii</sup>.

Similarly, it is likely that several of the questions highlighted by the PIU will need to be subject to further investigation. These include:

- To what level could nuclear generation costs fall for plant designs likely to be available over the next 10 years? What level of confidence can be placed on such cost estimates?<sup>xxiii</sup>
- How can nuclear generators set aside adequate sums to meet eventual waste disposal costs? If the generator were to set aside sufficient funds to meet highly pessimistic estimates of waste disposal costs, what fraction of total generating costs would this represent?<sup>xxiv</sup>

## **MONITORING INTERNATIONAL DEVELOPMENTS**

The stakeholder review panel should also set up procedures for monitoring international developments, covering R&D, and the construction, licensing and operation of new reactors.

The monitoring of international developments would complement the investigative work outlined above. Indeed, it is likely that some uncertainties, for example, those inherent in estimating the costs of electricity from new plant, will only be significantly reduced through the construction and operation of demonstration or commercial plant. Developments in the US and South Africa could be of particular interest in this regard.

## CONCLUSIONS

This issue of *New Nuclear Monitor* has highlighted that it would be premature for the PIU to conclude that there is a case for a shift in policy to support new nuclear build. It has acknowledged, however, that it would be logical for the PIU to recommend that there is a need to keep the case for new build under active review.

It is proposed that a review panel be set up, which:

- includes stakeholders from Government departments, the nuclear industry the regulators, the trade unions, local authorities, environmental NGOs and consumer groups;
- develops and oversees a programme to explore public acceptability issues, investigate key technical and economic questions, and monitor international developments;
- regularly publishes its work in these areas; and
- publishes annual advice to Government on the case for new nuclear build.

One of the first tasks of the stakeholder review panel should be to set up a 'Front End Consultation' to explore public views and concerns about new build, including its relationship to radioactive waste management. The findings should be used in the panel's assessment of key public acceptability issues.

The FEC findings should also be used to identify priorities for investigative work on technical or economic issues. Such work could proceed through 'jointly commissioned studies' or 'balanced interest' expert panels or workshops. The stakeholder review panel should select the approach most appropriate to the issue that requires investigation.

Finally, the stakeholder review panel should set up procedures for monitoring international developments, covering R&D, and the construction, licensing and operation of new reactors overseas.

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<sup>i</sup> PIU, 'Nuclear - Initial Scoping Note', August 2001.  
(<http://www.cabinet-office.gov.uk/innovation/2001/energy/energyscopenuclear.shtml>)

<sup>ii</sup> The PIU is due to report by the end of the year.

<sup>iii</sup> PIU, as above, para 38.

<sup>iv</sup> See, for example, RWMAC, 'Twentieth Annual Report', Chapter 3, November 2000.

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<sup>v</sup> PIU, as above, para 42.

<sup>vi</sup> These concerns, and the implications for reactor design, are discussed in NFLA, 'The Hurdles to Nuclear Revival', *New Nuclear Monitor*, Number 1, July 2001.

<sup>vii</sup> Initial differences of view on the economics of the AP600 are outlined in *New Nuclear Monitor*, No 1, July 2001.

<sup>viii</sup> 'Technological Opportunities to Increase the Proliferation Resistance of Global Civilian Nuclear Power Systems', report by the TOPS Task Force of the Nuclear Energy Research Advisory Committee of the US Department of Energy, October 2000. See also, E Kiriyama and S Pickett, 'Non-proliferation Criteria for Nuclear Fuel Cycle Options', *Progress in Nuclear Energy*, Vol 37, No 1-4, p71-76, 2000.

<sup>ix</sup> See, for example, The Future Foundation, 'Establishing the Value of Wider Public Consultation', a report for UK Nirex Ltd, November 2000, p20-28, and the findings of the 'front end consultation' of the ISOLUS project (<http://www.nucsubs.org.uk>).

<sup>x</sup> As this is the primary purpose of the review panel, its work should be funded by Government.

<sup>xi</sup> PIU, as above, para 59.

<sup>xii</sup> 'DTI initial contribution to the PIU Energy Policy Review', 2001, available at <http://www.cabinet-office.gov.uk/innovation/2001/energy/EPQw.pdf>.

<sup>xiii</sup> M Meacher, Parliamentary Answer, Hansard, 5 July 2001.

<sup>xiv</sup> Royal Commission on Environmental Pollution, 'Setting Environmental Standards', Twenty First Report, Cm 4053, October 1998, paras 7.12 and 7.22.

<sup>xv</sup> Parliamentary Office of Science and Technology, 'Open Channels: Public Dialogue in Science and Technology', Report No 153, March 2001, p11.

<sup>xvi</sup> J Hunt, 'Framing the Problem of Radioactive Waste: Public and Institutional Perspectives', Proceedings of 2nd VALDOR (Values in Decisions on Risk) Symposium, Stockholm, Sweden, 10-14 July, 2001. Editor: Kjell Andersson.

<sup>xvii</sup> See <http://www.nucsubs.org.uk>.

<sup>xviii</sup> The questions identified by the PIU include: how far would a declaration that fuel from any new reactor would not be reprocessed improve the public acceptability of nuclear power; and are public attitudes to nuclear largely fixed or could they change with circumstances, such as changed perceptions of the problems associated with fossil fuel use. PIU, as above, paras 56 and 59.

<sup>xix</sup> NFLA, as above, July 2001. The body of opinion includes the Royal Commission on Environmental Pollution and the European Commission.

<sup>xx</sup> See, for example, the findings of the ISOLUS 'front end consultation', <http://www.nucsubs.org.uk>.

<sup>xxi</sup> A similar approach is advocated, for example, by The Environment Council, and has been used in the BNFL National Stakeholder Dialogue.

<sup>xxii</sup> NFLA, as above, July 2001.

<sup>xxiii</sup> PIU, as above, para 23.

<sup>xxiv</sup> PIU, as above, para 33.

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