Planning for New Nuclear Build

Amicus Response to the DTI Consultation, *Policy Framework for New Nuclear Build*

1. Introduction

1.1. **Amicus is the UK's second largest trade union with 1.2 million members across the private and public sectors. Our members work in a range of industries including manufacturing, financial services, print, media, construction and not for profit sectors, local government, education and the health service.**

1.2. Amicus is the largest manufacturing trade union in the UK. Among its one million plus members are approximately 7,000 people directly employed in the nuclear industry, perhaps the same number again in companies in the nuclear industry supply chain and in construction and many others in other manufacturing industries, all of whose futures depend on the UK remaining competitive in global marketplaces. A secure and economic supply of energy which does not result in unacceptable environmental consequences is therefore of key interest to the union.

1.3. A new programme of power stations, especially nuclear ones, will require considerable expansion of the capacity to construct and supply plant and services to the industry. (It is believed that some 40,000 jobs could be created by such a programme.) It is vital therefore that a firm framework which can be seen to be robust to such events as a change of political policy is established as soon as possible, to give the companies involved the confidence to invest prior to the first new plants being ordered or coming on line.

1.4. To take one issue of particular important to Amicus, the UK nuclear industry is currently facing a skills shortage largely brought on by its uncertain future. Approximately 31% of British Energy employees are aged 51 years and over and a further 33% are between 41 and 50. A major new build programme will place significant demands on the UK's education infrastructure. The Government and the industry itself would need to send a clear signal to educational establishments about the expected future of nuclear new build if more nuclear-specific courses were to be opened.

1.5. **Amicus therefore welcomes both the Government's consultation on developing a policy framework for new nuclear build and the opportunity to contribute to it.** The proposals in general represent a fair attempt to remove some of the artificial barriers to nuclear new build while offering no blank cheques to the industry.

1.6. The main body of this response will reflect on general issues associated with the supporting information and what Amicus regards as the failure of the planning system as it currently operates when it comes to initiating major infrastructure projects in the UK and indeed elsewhere. More detailed comments on the formal planning issues raised in the consultation are in the attached Annex.

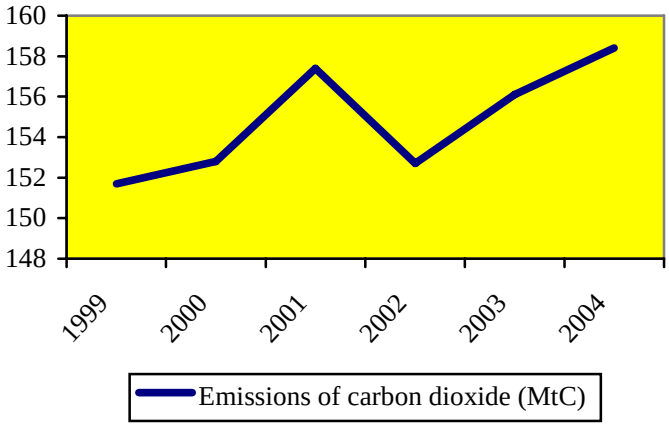
2. *Energy policy*

2.1. Amicus supports the findings of the recent Energy Review, summarised in the statement:

2.2. "Government considers that nuclear has a role to play in the future UK generating mix alongside other low carbon generating options."

2.3. **Amicus also believes that Government should be more involved in setting the parameters for energy policy than was the case in the period from 1990 to the early years of this decade.** In the 1990s a laissez-faire approach to energy production could perhaps be defended more readily than it can today. The decade saw falls in global fossil fuel prices coupled with discovery of considerable reserves of hydrocarbons in the North Sea, the emergence of an effective new technology (the Combined Cycle Gas Turbine, CCGT) and environmental benefits of the 'dash for gas'. As a result, it seemed that the four requirements of energy delivery systems alluded to in the 2003 Energy White paper – security, environmental acceptability, competitive prices and the alleviation of fuel poverty – could be delivered effectively within a competitive market framework with relatively little Government intervention except to prevent uncompetitive practices.

2.4. Today, as the latest Energy Review makes clear, things look more problematic. In terms of security of supply, the UK is coming to terms with the implications of becoming a net energy importer for the first time since the invention of the steam engine and there are concerns about recent levels of construction in new electricity generating plant. Energy prices have risen dramatically on the back of increased fossil fuels prices and greenhouse gas emissions seem to have resumed an upward trend.



UK carbon dioxide emissions 1999-2004 (1990 level 165.4 MtC) [1]

2.5. According to the 2001 synthesis report from the Intergovernmental Panel on Climate Change, global temperatures have already risen by some 0.6^{o} C owing to emissions of greenhouse gases. If no action is taken the increase by 2100 could be between 1.4 and 5.8^{o}, with major environmental, social and health consequences.

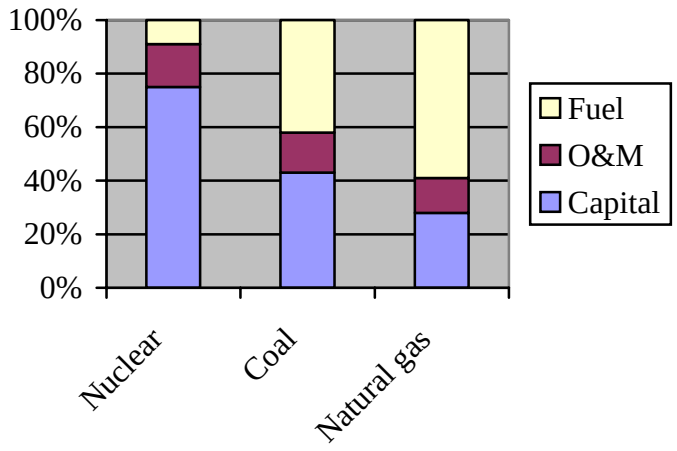
2.6. The strategic importance of energy is such that it is entirely appropriate that Government should seek to introduce measures to safeguard security of supply, cost and environmental implications into the medium and long term. We believe that nuclear power can and should play a significant role in helping the UK to reach its goals in all of these areas. Indeed, Amicus would encourage the Government to give more guidance as to an appropriate level of nuclear investment, in much the same way as it supports the obligations and aspirations which pertain to renewables. Such an approach would ensure that the most effective and efficient investments could be made, rather than stacking the market against one particular very low carbon technology (nuclear energy) as is presently the case.

2.7. This being said, Government is also correct to note that decisions on new plant should be taken by investors, not directly by Government. The 'blank cheques' offered to the nuclear industry in the 1960s and 1970s did not result in an effective or efficient nuclear industry. Business risk should largely be borne by investors as a way of ensuring that taxpayers are not left with large bills in the future. However, regulatory risk is a very different matter. If it is perceived that investors in nuclear energy could find themselves victims of changes in the rules over which they have no control this could serve as a great and possibly insuperable barrier to new investment whatever the true merits of such investment would be.

[1] *Global Atmosphere Research Programme of the Department for Environment, Food and Rural Affairs.*

3. *The nature of nuclear investment*

3.1. The consultation document rightly notes that investment in nuclear energy is more capital intensive than that in coal or gas-fired capacity (though not with respect to many renewables). A comparative graphic serves to emphasise this point.



Average electricity generation cost structure for nuclear, coal-fired and natural gas combined cycle plants, 10% discount rate and 25 year planning horizon[2]

3.2. It follows that the economic risks associated with investment in nuclear plant are concentrated in two areas – the servicing of the capital (itself dependent in part on how quickly the plant can be brought into operation after construction has begun) and the load factor achieved by the plant once construction has been completed. (By contrast, the economic risks associated with gas-fired power plants are dominated by uncertainties in the price of the fuel and in future, one would presume, by the need to buy carbon emission permits.)

3.3. The planning and licensing regime, while not unimportant for other forms of power production, can have disproportionately profound effects on heavily capital-intensive forms of generation. Although the candidate technologies likely to form the basis of any new build nuclear programme in the UK all have rather lower construction costs per kW installed capacity than 'Generation II' designs such as the AGRs or Sizewell B, they are nonetheless likely to be three or four times as expensive to install as Combined Cycle Gas Turbine (for example, the MIT study on nuclear energy published in 2003 offers 'base case' costs of $500 per kW installed for CCGT and $2,000 for nuclear, though the construction

[2] http://www.onlineopinion.com.au/view.asp?article=1238, Rogner H.-H., Langlois L. and Cleveland J. (2000), *The economic future of nuclear power in competitive markets.*

industry puts the latter figure lower[3]), although the operating costs of nuclear stations, notably fuel costs, will be much lower.

3.4. (One important issue, not covered in detail in the supporting information, is the benefit that would flow from finding a way of reflecting the carbon benefits of new nuclear technology at the start of the construction process rather than waiting for carbon credits to come on line once the plant is operating. A system of 'put' options, whereby Government buys the rights to carbon credits when the project commences, deciding later whether it wishes to exercise these options at whatever price has been agreed, might be an appropriate way of sharing the risk of the UK failing to meet its carbon obligations between Government and nuclear investors. In effect, the carbon benefit would be reflected as a contribution to capital costs not merely to running costs, thereby easing the problem of the initial capital intensity of nuclear projects.)

3.5. Some elements of risk, such as delivering the construction project to time and cost and the operational success (or otherwise) of the plant can rightly be regarded as 'normal' business risks which should be borne by the plant owners. However, others will be heavily influenced by the stance taken by Government. Since 1978 some 25 nuclear power plants with combined capacity of some 16 GW, and one MOx fuel production plant, have been closed or halted in advanced stages of construction for non-economic reasons in six OECD countries (Austria, Germany, Italy, Spain, Sweden and the USA). Others, including THORP and the SMP at Sellafield in the UK, have had to wait considerable periods after the end of the construction phase before receiving an operating license. In the most extreme cases, at Shoreham in New York State and Mülheim-Kärlich in Germany, full operating permission was never granted despite completion of the project and the entire investment was lost.

3.6. If the marketplace is to deliver the most efficient solution to the growing challenges of security, environmental protection and economics in electricity supply it is important that as many sources of non-business risk are cleared away as possible. **Amicus strongly supports the broad thrust of the proposals outlined in this consultation and their underlying philosophy**, viz. that the previous planning and licensing process, which took the best part of a decade to allow construction to begin at Sizewell B, in effect pays too little regard to national imperatives for investment in new, low carbon generating technologies. As the consultation document says,

3.7. "In the past, where the planning inquiry has been the focus of all discussions on proposals for new nuclear plant (covering strategic national, regulatory and local issues), it has led to an inefficient system, creating expense and uncertainty for all participants in the system."

[3] http://web.mit.edu/nuclearpower/, MIT (2006), *The future of nuclear power*.

3.8. In effect, the very prospect of a very long and protracted planning and licensing phase may in some cases be enough to deter investor interest even where nuclear new build, if treated equitably, would represent the most effective way of reaching the UK's goals for energy production.

3.9. Amicus's specific comments on the planning issues raised in the consultation are listed in the following Annex. However, it is important that the Government also considers how the planning and licensing regime can give confidence to potential investors that regulatory delays or changes will not cause large financial losses. (The 2005 US Energy Act included provision for insurance protection against delays during construction and until commercial operation caused by factors beyond private sector's control, to be offered to the first four or six plants to be built.) It is vital that the current planning system (and indeed other elements of the market), which works heavily against nuclear energy, should be rebalanced to allow all sources of low carbon energy to compete fairly, as this is the only way that the UK can ensure that the challenges will be met in the most efficient and effective way possible.

4. *Conclusion*

4.1. **Amicus supports the requirement for an amended planning policy designed to reduce unnecessary delays and welcomes the Governments proposals.** We feel, however, that the proposals would benefit from clarification, especially around the Statement of Need and Euratom Justification requirements to reduce duplication and so enable this strategic approach to succeed.

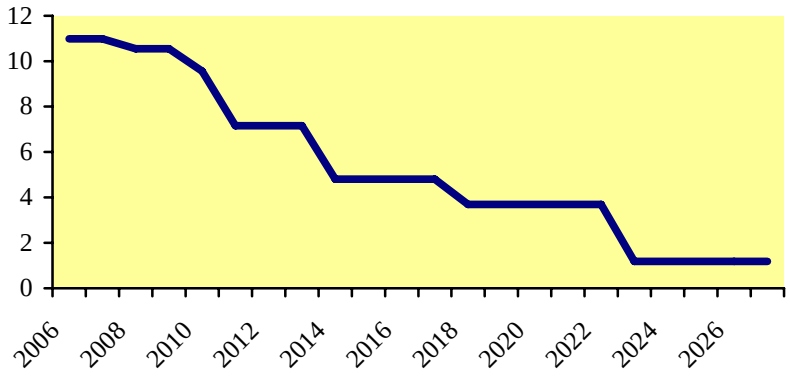
Dougie Rooney
National Officer
Amicus
Hayes Court,
West Common Road,
Hayes, Bromley
BR2 7AU

Tel 0208 462 7755 X384
e-mail doug.rooney@amicustheunion.org

ANNEX – comments on specific issues raised in the consultation.

5. *Statement of Need*

5.1. **Amicus supports the proposal that a Statement of Need should be issued to underpin planning policy with regard to new nuclear plants.** However, as drafted it seems rather non-committal. The Government is right to avoid any sense that it wishes to dictate the final fuel mix for electricity production. However, given the recognition that nuclear energy has a role to play it may be fruitful to give some indication of the minimum number of new plants that might be required, as it is questionable whether a 'programme' consisting of say one or two stations only would be viable. One presumption that might be added to the Statement of Need, for example, would be that the current nuclear fleet, or at least the AGRs and Sizewell B, should be replaced when they come to the end of their (possibly extended) operating lives. This would have the merit of injecting some urgency into the search for solutions to increasingly pressing problems.



Projected UK nuclear generating capacity (GW)

5.2. The risk associated with an inadequately robust national statement of need was illustrated by a recent decision at Canvey Island in Essex, where planning permission for an expanded Liquid Natural Gas depot was refused on grounds that Inspectors were not convinced of the national demand for such a facility. This refusal occurred despite gas shortages throughout the previous winter which had driven many intensive users to suspend manufacturing, at least during the high winter demand period, and a statement by the Energy Minister warning of further shortages this winter.

6. *Justification and Strategic Site Selection*

6.1. **Amicus supports the proposal that Justification and Strategic Site Selection should be settled at a national level before any local planning inquiry is carried out.** There is no good reason why such matters should be reopened every time an application is made. The Inspector quite rightly will have powers to do so should he or she perceive local issues but it is important not to run into the confusion which has affected planning applications for mobile phone masts, whereby some planning appeals took into account local fears, even where entirely unsupported by the scientific evidence, and rejected applications on the basis that local people were concerned – this despite Government guidance that there was no reliable evidence of potential health risks. It is particularly welcome that issues such as alternative possible sites and the 'need for nuclear power' should be addressed once and for all at a national level rather than repeatedly for each potential locality.

6.2. **Amicus believes that sites where nuclear generation is already taking place should be prime locations for new build as they have both the infrastructure and, in the main, the support of the local population.** The possible presence of decommissioning work taking place onsite at the same time as generation or construction should not represent a barrier to site use, as demonstrated by the process of decommissioning the Magnox plants at Hinkley Point, Hunterston and Sizewell while more modern plants continue to operate on the sites.

6.3. With regard to justification, the Euratom Directive of 1996 laid down basic safety standards for the protection of the health of workers and the general public against hazards arising from ionising radiation. They were incorporated into the Justification of Practices Involving Ionising Radiation Regulations (2004). The health and safety of workers and the public is paramount when dealing with any industry and Amicus believes it is essential to ensure that all the relevant bodies are consulted with regard to any new build. Amicus believes that the proposed practice of a single consultation on a design of plant would be sufficient to satisfy these regulations, as long as all affected bodies were consulted. **Amicus believes, however, that if technological developments brought about minor changes in design, having no adverse effect (or even positive effects) on safety, plant manufacturers should not be required to follow the full practice as set out in the legislation.**

7. *Regulation*

7.1. Amicus supports the assumption that regulators will do their job in the field of health & safety, security, non-proliferation and discharges. However, it should be recognized that in some cases there will need to be investment in the capacity of the relevant inspectorates to carry out such tasks, and that

investment should be made now (without prejudice as to whether or when a programme of new build will commence).

8. *Role of Planning Inquiries*

8.1. While it is correct that local planning inquiries should pay proper regard to local plans, notably the Local Development Framework, local environmental impacts and their potential mitigation, and local benefits, it is important that Inspectors should not be encouraged to treat nuclear energy as a 'special case' on non-planning grounds.