

Fixed Unit Price methodology and updated cost estimates consultation  
Office for Nuclear Development  
Department of Energy and Climate Change  
Area 3D  
3 Whitehall Place  
LONDON  
SW1A 2AW

22 June 2010

Dear Sir/Madam,

**CONSULTATION ON FIXED UNIT PRICE METHODOLOGY FOR WASTE DISPOSAL  
AND UPDATED COST ESTIMATES FOR NUCLEAR DECOMMISSIONING ETC**

Thank you for the opportunity to respond to DECC's consultation on the Fixed Unit Price methodology and updated cost estimates.

ScottishPower is the main UK business of Iberdrola, one of the world's leading utilities. Iberdrola is a major producer of nuclear power in Spain and is partnering with GDF Suez and Scottish & Southern Energy with a view to undertaking new nuclear build in the UK. In 2009 we acquired, along with our consortium partners, an option to develop land adjacent to the existing nuclear complex at Sellafield.

We broadly welcome the proposals in the consultation, which amount to an important step in developing thinking in this area. I attach a note giving responses to the consultation questions, but would like to highlight a few key comments.

In relation to the proposed option to allow for a deferred fixed unit price:

- We welcome the additional option provided by this proposal. The deferral option does however place considerable price risk with the operator and a deferred price may not meet external financing criteria. Operators will have to give careful consideration to the balance of price certainty versus additional cost when finalising the submission of their Funded Decommissioning Programme.
- If the operator elects to defer price setting, it is not clear whether the final price can be fixed at any point during the Deferral Period or whether the final price cannot be fixed until the end of the Deferral Period. An operator electing to defer price setting may wish to lock in the price risk during the Deferral Period and should have the ability to elect to fix the price during that Deferral Period, possibly at the time of the quinquennial reviews. A process to permit this should be considered.

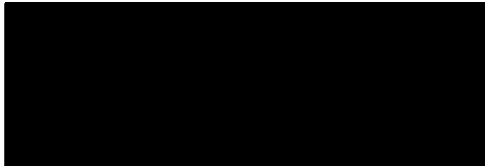
- We also think that the maximum Deferral Period can be longer without any risk to the prudent protection of public funds. We would suggest that the maximum period should be half the operational life of the reactor accepted for the FDP – i.e. 20 years after the start of operation for a 40 year reactor life, and 30 years if the initial FDP had a 60 year lifetime.

We agree with the Government's clarification that the current use of a 66% optimism bias figure in the cost estimates is a nominal starting point. That figure should be revised in the light of estimates as to the actual level of uncertainty and technological innovation involved in the GDF project.

We also welcome the proposal for Government to take title to waste at the start of the decommissioning period. Government is better placed to manage this waste than an operator who no longer has an operational facility. We do have some concerns regarding uncertainties in the calculation of the lump sum to be transferred to Government on transfer of title, for example the late confirmation of the "time value of money" element.

Please contact me (using the details printed on the previous page) or Lynn Wilson (on 0141 568 5054) if you have any questions.

Yours faithfully,



**Rupert Steele**  
Director of Regulation

## CONSULTATION QUESTIONS

**1 Do you agree or disagree that prospective operators of new nuclear power stations should be given the option to defer the setting of their Fixed Unit Price? If so, do you agree that this deferral should be limited to 10 years after the nuclear power station has commenced operation? Do you have any comments on the way the Government proposes to determine an expected Fixed Unit Price as the basis for an operator's interim provision in the event that they choose to defer the setting of their Fixed Unit Price?**

Yes, operators should be given an option to defer the setting of the Fixed Unit Price. It is helpful to offer operators the option of taking an element of the cost risk of waste disposal, in return for omitting those risks from the pricing calculation.

We do understand that the Deferral Period cannot be indefinite as the plant must have time to build up the required fund for the final fixed price they are given (albeit they will be contributing to the FDP according to their estimated fixed cost during the Deferral Period). We also agree that the ideal point to set the fixed price is after a GDF site has been identified and there is more clarity on design details and hence costs. However, the limit of ten years after commissioning would seem to be short and does not allow flexibility for changes in the GDF programme.

We think that the prudent maximum Deferral Period would be around half the operating life of the reactor. That way, in the event that fixing the price were to lead to a sharp increase from the estimated fixed price then in force, there would be sufficient remaining generation to catch up. Based on a 40 year operational life, this would suggest a maximum Deferral Period of 20 years from the start of operations leaving 20 years of operational life remaining to spread any payment adjustments. A 40-year operational life is extremely conservative and experience shows PWRs routinely achieve 60 years of operational life. In the event that operators come forward with FDPs based on a 60 year life, it would therefore follow that the maximum Deferral Period for a plant with a 60-year life should be 30 years.

If during that maximum Deferral Period, the GDF site had been identified and a sufficient period of time had elapsed to allow the Government to determine the technical design and estimate the associated costs, the fixed unit price could be set before the end of the Deferral Period.

Where an operator chooses to defer fixing the price, the consultation document is not sufficiently detailed about the procedure for delayed price setting and this leaves the matter open to different possibilities as follows:

- a) eFUP will necessarily exist for the full Deferral Period, and the operator will have no further choice but to wait to see what Fixed Unit Price is awarded at the expiry of the full Deferral Period; or
- b) the operator will have the opportunity to change an eFUP into its Fixed Unit Price at any time during the Deferral Period. This would be a one-off right to "close" the Fixed Unit Price within the Deferral Period. However this is not supported by the consultation document as there appears to be no procedure for setting the Fixed Unit Price in this way; or
- c) there will be specified review points within the Deferral Period, giving the operator limited choice to "close" the Fixed Unit Price at those times. The consultation document does contain provisions for periodic review of eFUP, but again, this does not appear to extend to a procedure which entitles an operator to periodically "close" its Fixed Unit Price.

We think that a possible solution would be for the operator to have the option to request a fixed price offer at each quinquennial review. If the operator elected to accept the offered fixed price, this would endure for the rest of the programme until disposal.

**2 Do you agree or disagree with the proposal that the Schedule for the Government to take title to and liability for an operator's waste should be set in relation to the predicted end of the decommissioning of the nuclear power station? Do you have any comments on the way the Government proposes to recoup the additional costs it will incur in this case?**

We accept that the Government is in a better position to take responsibility for waste at the end of the decommissioning period than the operator, and this guides us to conclude that the principle strikes the right balance and places any residual risk with entity best placed to manage it over the long term.

At the point of transfer to the Government, the proposal stipulates a requirement for a risk premium to cover any variation in waste storage costs between transfer of title and eventual disposal, a "commensurate risk premium to protect the taxpayer in the event that the waste management costs are higher than estimated". As the operator will have control over the waste storage facilities up to the point of transfer this naturally leads to the view that the operator should bear at least a proportion of the risk of cost variation for these facilities after the Transfer Date. However, we believe it is appropriate for the Government to also bear a significant proportion of that risk as the waste storage facilities will be under Government control after the Transfer Date and the operation of the encapsulation facility is also likely to be wholly under the Government's control. The portion of the risk that relates to how well the process is managed by Government (as opposed to the risk of an unavoidable cost increase) should be borne by the Government as the party responsible for the operational decisions in question.

Under the early transfer proposal, the Government will have title to all new build waste ahead of encapsulation and it is therefore highly likely that a national solution for encapsulation will be the most cost-effective way of managing encapsulation, perhaps a national encapsulation facility. The benefit of economies of scale from a national-level solution should be reflected in the lump sum transferred to Government for the management of waste following early transfer of title.

**3 Do you agree or disagree that the proposed methodology to determine a Fixed Unit Price strikes the right balance in protecting the taxpayer, by taking a prudent and conservative approach to cost estimation, while facilitating new nuclear build by providing certainty to operators? What are your reasons?**

We acknowledge and understand the need to protect the taxpayer as well as the importance of nuclear security and safety at all stages of the new build cycle.

While we broadly agree with the methodology, we think that it is too conservative, particularly in the application of the optimism bias. We are therefore pleased to note that the Government is not saying that 66% is necessarily an appropriate optimism bias and that it will be reviewed when a developer asks for a fixed price. That figure should be revised in the light of estimates as to the actual level of uncertainty and technological innovation involved in the GDF project. We also believe that the model used should be for a GDF which is optimised for UK new build waste as well as legacy waste rather than using the current NDA base case which appears to be based on a relatively high level extrapolation from the SKB Swedish disposal model.

These proposals raise significant uncertainties and risks with operators being asked to bear the risk of change of liabilities, substantially determined by the Government, in periods when the operator will have no control over the risk factors. For example, even if the operator chooses not to defer price fixing, the "time value of money" assumption will have a significant impact on the level of funds required to be available due to the late determination of this level, many years after operation has ended.

We note Paragraph 2.8 mentions finalised guidance is expected to be published later in 2010 and will assist operators in understanding obligations under the Energy Act, and what is required for approval of an FDP. Our present view does not have the benefit of the final

terms for approval of an FDP, and is necessarily contingent the guidance raising no significant further issues.

**4 Do you agree or disagree with the proposed approach to determining an operator's contribution to the fixed costs of constructing a Geological Disposal Facility? What are your reasons?**

It is sensible to get the maximum benefit from a GDF by emplacing both legacy and new build waste. A GDF is required for legacy waste and there will be fixed costs associated with the construction of such a facility for legacy waste alone. It is absolutely right that any additional fixed costs required to accommodate the new build waste in the GDF should be allocated amongst those contributing to the new build waste. However, the proposal is to share all of the GDF fixed costs equally across all emplaced waste and this could be seen as new build waste subsidising the cost of legacy waste. It is important to clearly establish which of the fixed costs are as a result of legacy waste and which arise as a result of new build waste.

In the section entitled "Setting the Price" on page 36, the two-step process for setting the fixed unit price is detailed but it does not make reference to its application to the setting of the eFUP. It is our understanding that the same process will be adopted for setting the eFUP and clarity on this point would be welcomed.

**5 Do you agree or disagree with the proposal that the units to be used for the Fixed Unit Price are pence per kWh for spent fuel and cubic metres of packaged volume for intermediate level waste? What are the reasons?**

Pricing ILW per cubic metre of packaged volume will create incentives to reduce disposed volume, and this would appear to produce the right outcome environmentally and from a safety/security perspective.

In the case of spent fuel, one of the key influencers of cost will be the heat load on the repository, as this, rather than physical size, may be the limiting factor as to how closely the rods can be emplaced. Pricing spent fuel per kWh(e) reflects this consideration as the heat generated will, for a given age of spent fuel, be broadly proportional to the electricity generated. However, we suspect that the amount of fuel in tonnes of uranium may also have an influence on the cost, especially at lower levels of burn-up. Some form of composite measure that could address both the volume and heat related elements of spent fuel might be worth considering, though the simplicity of a kWh(e) measure has some attractions.

**6 Do the updated cost estimates represent a credible range of estimates of the likely costs for decommissioning, waste management and waste disposal for a new nuclear power station?**

We believe the methodology set out in the consultation document captures the main cost drivers but the outcome remains uncertain as it rests on achieving the right balance of risk and certainty. This is essentially a matter of determining the risk premia that the Government considers to be appropriate to protect taxpayers.

We believe that more certainty is required to convert the concepts into commercial proposals, and the current approach of a deferred price may not meet external financing criteria. Therefore, a higher risk premium may be a price worth paying to gain the certainty of a fixed price but this will have an impact on the economic case for new build.