Nuclear Decommissioning Authority

Fixed Unit Price Methodology and Updated Cost Estimates Consultation

Office for Nuclear Development, DECC

Nuclear Decommissioning Authority (NDA) Response to the Consultation

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The NDA is a Non-Departmental Public Body

Preamble

The NDA welcomes this opportunity to comment on this consultation.

The NDA was created under the Energy Act 2004 with a mission to clean up the UK's public sector civil nuclear sites in a safe and cost effective manner having due regard to the environment. As such we hold no views for or against regarding the development of new nuclear build (NNB) in the UK.

In addition to its primary mission, the NDA has been given responsibility for planning and implementing geological disposal for higher activity wastes. Through agreed mechanisms for updating the Baseline Inventory of wastes for disposal, inclusion of wastes from any programme of new nuclear power stations will be taken forward in discussion with host communities as the programme proceeds. In this context the NDA has provided support to DECC in the development of a pricing model for NNB waste disposal (including spent fuel) in a range of implementation scenarios.

We have also supported DECC on an ad-hoc basis with advice on the development of the Funded Decommissioning Programme, based on our experience in managing the Nuclear Liabilities Funding Agreement (NLFA). This sets out arrangements for funding British Energy's (BE's) legacy nuclear liabilities following their solvent restructuring in January 2005, and their responsibilities for effective planning and cost estimation, with NDA providing oversight on behalf of Government and the Nuclear Liabilities Fund.

Our responses to the questions posed by the consultation are based on our experience from the above. Our high level response to each is signified in bold text, with further information, qualification or justification then immediately following.

Chapter 3 – The methodology to determine a Fixed Unit Price

Question1:

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 operators' interim provision in the event that they choose to defer the setting of their Fixed Unit Price?

NDA Response:

We support the establishment by DECC of the option for operators to defer the setting of their Fixed Unit Price (FUP) beyond the start of operation of the station.

As the proposal states (eg para 3. 2.11), this will allow more certainty when the price is provided as it is to be expected that as progress is made with the implementation of the GDF and associated waste encapsulation technology the current level of uncertainty should decrease. We also agree that a 10 year limit is appropriate for the deferral period as an appropriate balance between better estimation of costs as the GDF development matures, and the remaining period of the operating life of the station such as to enable the operator to contribute sufficiently to the Fund.

We note that when the FUP is set its value will be indexed for inflation (para 3.1.4). However no indications are given as to what level of indexation will be used, eg RPI, CPI, construction indices, nuclear decommissioning index etc. This will be crucial in apportioning risks as between the operator and the taxpayer.

Likewise, when the eFUP is set, the operator should understand what the appropriate inflation index is so he can plan accordingly, and for when the FUP is eventually set.

We support the concept that in return for a potentially lower eFUP at the outset the operator bears the cost if this underestimates the final FUP (eg para 3.2.6). This should allow for prudent planning by the operator as determined by his appetite for risk. However, the eFUP should not be set so low that the make-up by the operator of any funding shortfall against the FUP results in the station becoming uneconomic and thus risk premature closure or threaten the financial viability of the operator. In this regard we are pleased that in order for the operator to exercise the option to defer the SoS will have to be assured that the operator has made prudent provision including for any subsequent cost escalation (para 3.2.7 refers).

More generally we note that the approach taken in the consultation document relies on the fact that a volunteer community and a GDF of the appropriate size for both legacy and NNB is found. However this begs the question of what would happen, especially after agreeing the FUP, if a GDF is not available either as a result of the initial selection process of finding a suitable site, or some significant risk materialises during GDF construction/operation. This high consequence 'event' does not seem to be addressed in the methodology or consultation.

Question 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?

NDA Response:

We support the concept of an early transfer of title to and liability for an operators waste to Government. As noted in the consultation document (para 3.2.26) this will place risks where they are most effectively managed, noting the public sector legacy liabilities reside with Government who is taking steps to address their long term management.

Setting the Schedule for Early Transfer at the end of decommissioning is appropriate as at this point the operator's involvement with the site and its associated liabilities has largely ceased and it is the start of a possible long period of institutional control. However it begs the question of what 'end of decommissioning' date is as it could be linked to the appropriate end state of the site or the end of generation or defuelling when the operator has no further commercial interest. This would need defining at the outset.

We also agree the proposal that upon transfer of title to and liability for the operators waste Government should receive a lump sum payment to cover these costs. This places them firmly with the body responsible for discharging the liability. We also note that the establishment of this payment will allow for the risk that disposal facilities are not available as planned (para 3.2.35).

The proposal recognises that the FUP will be adjusted to reflect the early payment at the Transfer Date against expenditure many years into the future. We agree that the appropriate discount rate to apply should not be set at the time of the FUP but closer to the Transfer Date to reflect the most up to date rates of return at that time. We also agree that the model should allow for station life extension, or indeed premature closure, by changes to the Transfer Date, as referred to in paras 3.2.39 and 3.2.40.

As a more general statement, it is not clear whether the FUP arrangements and Schedule includes LLW (and indeed VLLW) as well as ILW and spent fuel. Section 2.10 refers only to ILW and spent fuel. While Governments' "Consultation on Funded Decommissioning Programme Guidance for New Nuclear Power Stations" Feb 2008 states on p68 that LLW will be disposed of promptly after it is generated and paid for out of operating costs i.e. not part of the FDP, this does not seem to address LLW arising from decommissioning following station operation. The FUP consultation document refers to LLW is in Para 3.2.28 and Annex C (derivation of the Contingency Allowance) but this does not appear to have been considered in the worked examples. We suggest that the position regarding LLW as being within or outside the FUP arrangements and Schedule is made more explicit.

There also appears to be a lack of clarity in the treatment within the proposed methodology of ILW as opposed to spent fuel. For example ILW is referred to in para 3.2.23, spent fuel in 3.2.24 but Government's responsibilities under Early Transfer in para 3.2.27 do not refer explicitly to ILW, only spent fuel. ILW could be inferred from the reference to 'waste' but so could LLW and this is not previously mentioned. We also suggest that it is made clearer what the assumed condition of the ILW and spent fuel will be at the point of early transfer (eg para 3.2.27).

Question 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?

NDA Response:

We consider the FUP methodology does strike the right balance in protecting the taxpayer whilst facilitating new nuclear build. We further accept the sense in assuming new nuclear build waste will be co-disposed with legacy waste. This will bring benefits of scale to both sets of waste generators, as noted in para 3.3.47. However there are some areas which would benefit from further explanation.

The FUP will be dependent on the volume of waste disposed including the proportion of legacy to new nuclear build arisings. However the methodology assumes no additional fixed costs will be incurred as a result of including new build wastes into a GDF designed for legacy arisings (para 3.3.13). NDA is currently pursuing initiatives that could impact on the disposal inventory of the GDF, eg in-situ disposal of reactor graphite cores. This will change the fixed cost proportions of the fixed unit price. Similarly station life extension for both legacy and new nuclear will also change the disposal volume for both ILW and spent fuel which will impact on the fixed price. These examples indicate that the disposal inventory is subject to change and so it would be valuable to stress in the methodology that any change to the disposal inventory will impact on the proportion of the fixed cost attributable to the disposal of waste material from new nuclear power stations.

Perhaps most significantly, if the new build programme exceeds the current assumption a second GDF may be required. While the consultation document recognises these uncertainties it is unclear how they will be incorporated into the actual FUP.

We wonder if the FUP model may give the operator an ‘asset’ in the event that over time the FUP turns out to be an underestimate. This inadvertently could prompt the establishment of a ‘futures market’ in this area with the possibility of the FUP becoming a traded commodity.

The proposal does not explicitly acknowledge the impacts of future regulatory change, eg greater security. It would be helpful we suggest, if DECC would include within the worked examples some sensitivities, eg a second GDF.

We do accept however the point in para 3.3.24 that by the end of the Deferral Period there should be significantly greater certainty which may allow such adjustments (including in-model risks) to be better determined, as recognised in para 3.3.33.

Question 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?

NDA Response:

The methodology for determining an operators' share of the fixed costs of a GDF seems reasonable but note our comments in response to Question 3 regarding uncertainties arising from actual versus planned quantities to be disposed which will affect the fixed price calculation, especially if volumes of legacy material reduce from that currently forecast.

On this basis we believe that it is fair and appropriate that new build operators contribute towards the fixed costs of the GDF. This provides transparency between legacy waste disposal whose costs will in the main be born by the taxpayer, and the new build private sector.

However, it is not clear whether the operator will bear a share of the development costs of the GDF, or only the capital costs of its construction: The fixed costs that are listed in Table 12, page 77 include all the costs to first waste emplacement and so should include all the development costs. However, the definition of fixed costs at section 3.3.35 does not make that clear. We suggest that in order to clarify that the prospective operators of new nuclear power stations will be required to contribute to all the development costs of a GDF, the description of fixed costs is modified to include development costs up to first waste emplacement.

We also agree the proposal to subject the operator's contribution to the fixed costs of a GDF to a financing charge based on a 'virtual' GDF development driven by the needs of the new build operators (paras 3.3.58 and 3.3.59). The determination of this charge will need to be carefully considered to ensure the taxpayer is not subjected to undue cost risk. In that regard we welcome the assurance given in para 3.3.62 over such protection.

We furthermore support the commitment to transparency given in para 3.3.64 over the application of the methodology for FUP and eFUP setting.

As per our previous comments, we believe it is important to set an appropriate inflation index for the FUP and eFUP (refer to para 3.3.65). The consultation document does not specify or indicate what this might be, or how it may be determined in the future when actual programmes are submitted by operators.

Question 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 meters of packaged volume for intermediate level waste? What are your reasons?

NDA Response:

Both sets of units provide a clear and understandable basis for costing which are in international use.

As para 3.4.2 notes, a simple volume measure is consistent with reporting of arisings in the National Inventory and relates directly to emplacement in the GDF. For spent fuel a similar volumetric measure could be used, but unlike ILW the arisings of spent fuel at a power station are directly related to generation and hence a KWh basis seems more appropriate.

Chapter 5: Updated estimates of the costs for decommissioning, waste management, and waste disposal.

Question 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?

NDA Response:

We note that there is great uncertainty in estimating waste management and disposal costs so far into the future given the level of maturity of the GDF development. Hence in our opinion the FUP methodology provides at this time a sound and transparent approach going forward. This should be kept under periodic review as plans mature.