

## Consultation on a Methodology to Determine a Fixed Unit Price for Waste Disposal and Updated Cost Estimates for Nuclear Decommissioning, Waste management and Waste Disposal.

### Response by EDF Energy plc

EDF Energy welcomes the publication of this consultation paper as an important step towards the implementation of the Funded Decommissioning Programme (FDP) and the development of new nuclear build in the UK.

The proposals are, in the main, helpful in supporting the development of the FDP and provide useful clarity to potential new nuclear operators. However, there are a number of areas on which we would like to comment or seek further clarification. Answers to the specific questions are given below.

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?

EDF welcomes the additional flexibility that the deferral of the Fixed Unit price offers and the opportunity this provides to make further progress on increasing the certainty of the costs of waste disposal. We also note the helpful flexibility for the operator not to be irrevocably committed to the disposal of spent fuel in the Geological Disposal facility if technological or other developments made an alternative approach economically attractive.

However, we consider the deferral period of up to 10 years to be too short to be of significant benefit. The principle advantage of the deferred fixed price is that it should allow greater certainty around the repository and waste disposal costs. It is far from clear that the repository development will be sufficiently advanced by 2028, and we could still face the situation in which costs will still have substantial uncertainty and therefore there will still need to be a large risk and contingency margin.

EDF Energy considers that it would be more appropriate in terms of reducing uncertainty to attach the fixing of the price to particular stages in the development of the repository. Appropriate stages could be:

- Conclusion of site investigations and grant of planning consent for repository development;
- Appointment of main contractors for repository development;
- Conclusion of repository construction;
- Emplacement of first legacy wastes.

Government has indicated that the price will need to be fixed at a time when there are still sufficient contribution years to make up any shortfall in the operator's fund. In our view, fixing of the price could be deferred for at least half the reactor's lifetime without causing concern over making up the funding level, especially since contributions will be made into the fund based on the EFUP in any case. We would therefore propose a backstop of thirty years from beginning of generation as the time by which the unit price should be fixed.

We believe that, from a pragmatic viewpoint, the first EFUP could be set based on the Government's proposed methodology of a base estimate plus an uncertainty allowance. However, as time goes on, we would expect subsequent EFUPs, which presumably would be provided to the operator at quinquennial reviews, to be based on a more robust assessment of the base costs plus a realistic level of risk and contingency. We would also expect the basis of any revised EFUP to be transparent, justified and credible.

Do you agree or disagree with the proposal that the Schedule for the Government to take title to and liability for an operators 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?

Whilst there are a number of options for the timing of the transfer of liability for waste, we believe that the end of the decommissioning period is a sensible choice, which recognises the end of the operator's responsibility for the management of the site.

We also believe that it is sensible for the operator to make a lump sum payment to Government on the transfer of title, to cover the future costs of storage, transport, encapsulation and disposal. We welcome the acknowledgement that this will be the net present value (i.e. discounted) of the disposal cost, but note that this does not seem to apply to the storage and encapsulation costs, which are also material and incurred over a significant period of time. We strongly believe that the net present value of both sets of costs should be paid to Government at the time of title transfer and would be grateful for confirmation that this is Government's intention.

The choice of discount rate for calculating the net present value will have a material impact on the size of fund that will be handed to Government at the end of decommissioning. To allow the operator to plan its contributions appropriately, a mechanism needs to be developed, as part of the quinquennial review, for an appropriate discount rate to be assumed and agreed by Government. Whilst this may not be fixed until nearer the transfer date, developing a mechanism will give the operator greater certainty over the likely final discount rate and therefore the contributions that will be required.

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 build by providing certainty to operators? What are your reasons?

The proposed methodology for setting the fixed unit price has been developed for a situation in which there is significant uncertainty about the expected costs of waste disposal. In seeking to protect the taxpayer in the future, the Government has proposed a very conservative approach and added in very high levels of risk and contingency, inflating the overall base cost. It is inevitably a rather crude approach, which risks double counting of risk and overestimation of costs and could only be regarded as appropriate in the absence of better data.

The EFUP approach gives both Government and the operator the opportunity to develop a more technically robust and accurate set of costs, which will provide the same level of public protection to be achieved at a lower cost to the operator and to the overall costs of nuclear electricity. We are therefore supportive of the EFUP approach and the greater levels of cost certainty that it can hopefully achieve, whilst supporting the option for other operators to adopt the Fixed Unit Price if they feel that it is appropriate for them.

However, we are concerned that there appears to be an assumption (set out in para. 3.2.13) that the EFUP could be increased if the Government fails to make progress on the development of the GDF. Given that GDF progress is entirely in the hands of Government and outside the control of the operator, this could be seen as setting a perverse incentive for Government not to make progress on the GDF. We do not therefore believe it would be appropriate for either the EFUP or FUP to carry a risk premium which relates to Government's failure to make progress and deliver the GDF.

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?

As a basic principle, EDF Energy considers that it is reasonable for new nuclear build to make a contribution to the fixed costs of a repository, even though those costs would be incurred in full in any case to deal with legacy wastes.

Of the two options for estimating the contribution to the fixed costs, we agree that option A is appropriate. The use of the EFUP would allow the fixed cost element of disposal to be revised downwards as more new build operators come forward.

However, we have reservations about the application of a "financing charge". The Government states, at paragraph 3.3.58, that this means the financing charge will only be payable for a few years between the virtual construction and emplacement dates. EDF would be concerned to ensure that the Government has actually incurred these charges at the time a new nuclear operator pays the Fixed Unit Price (which incorporates the Financing Charge) and as such would propose that this is only charged on Fixed Costs actually incurred by the Government at the Transfer Date (the date when the new nuclear operator will pay the Fixed Unit Price to the Government).

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

EDF Energy considers the use of packaged volume for ILW to be entirely appropriate, as it relates directly to the costs of disposal.

We also consider that there are benefits in simplicity and transparency on the use of a pence per kWh payment for spent fuel. However the details of how this will operate (which measurement of electricity generation is taken, what type of fuel is covered etc.) still need to be worked up and EDF would be happy to work with Government in developing a practical set of arrangements

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?

The basis of the Government's estimate of decommissioning costs is unclear. It appears in scope to include all the liabilities costs, except for the disposal of spent fuel and ILW, but without further breakdown it is difficult to tell how credible the costs are. For example, the references appear to refer only to decommissioning costs and not the costs of long term waste storage, encapsulation and transport.

In any case, the value of these indicative figures with large ranges of costs is unclear. EDF Energy would expect that Government, in approving the FDP, would require a thorough justification of the level of costs proposed, together with independent verification that the costs were indeed calculated properly.

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