

Annex F: Response form for the consultation document on a Fixed Unit Price methodology and updated cost estimates

You may respond to this consultation by email or by post.

Please note that if you accessing this document electronically you will only be able to enter text in the response fields.

Respondent Details	
Name:	Eur. Ing. Rob Parker, Nuclear Propulsion Regulator
Organisation:	Ministry of Defence, Defence Nuclear Safety Regulator
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Please return by 18th June 2010 to:

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

You can also submit this form by email:
decomguidance@decc.gsi.gov.uk

Tick this box if you are requesting non-disclosure of your response. ☐

No.	Question
Chapter 3: The methodology to determine a Fixed Unit Price	
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?
Response	<p>This is a proposal to help with the costing of waste management from potential new nuclear power stations. As existing nuclear operators (of RN submarine reactors), it is not of immediate interest to MoD, but could influence downstream disposal costs attributable to the RN programme.</p> <p>MoD's interest in the commercial aspects of this proposal as a co-customer for use of the GDF are that costs are not unduly loaded onto current "legacy" nuclear liabilities holders. The majority of the proposals regarding a fixed unit price approach, contribution to GDF fixed costs, deferral of fixing the price etc., are reasonable options which can be made to work with the right tariffs, and protections against bankruptcy (closed protected funds etc.). At this stage, therefore, we shall not make comments about these commercial aspects pending later detailed costing information, to be subject to fuller scrutiny by commercial officers. However, we do not agree with the proposal to use a unit of pence per kWh for disposal of spent fuel. The reasons for this, and for MoD interest in this aspect, are spelt out below, at (5).</p>
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?
Response	As (1)
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?
Response	We can see the benefit in removing uncertainty to operators, where feasible and technically sound, where it does not risk driving perverse behaviour, and provided it does not disadvantage co-customers. As (1), and see detailed concern at (5)
4	Do you agree or disagree with the proposed approach to determining an

No.	Question
	operator's contribution to the fixed costs of constructing a Geological Disposal Facility? What are your reasons?
Response	As (1)
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 your reasons?
Response	<p>We do not agree with the proposal to use a unit of pence per kWh for disposal of spent fuel. The reasons for this, and for MoD interest in this aspect, are spelt out below</p> <p>Past management of spent fuel in the UK (and France) has favoured early processing to separate it into a "ILW" and a "HLW" stream, driven partly by the difficulty in storing spent fuel from graphite-gas reactors. This approach, while reducing the quantity of HLW in the short term, increases the total volume of combined ILW + HLW, as well as generating discharges and LLW + PCM. It is not self evidently a BPEO and has not been universally adopted internationally, and the direct disposal of spent fuel is a technology which will certainly be developed and optimised over the coming decades, long before the UK GDF is commissioned.</p> <p>In practice, there is no difference in type or degree of radiological hazard/need for immobilisation between HLW and ILW, the distinction being only that HLW is defined as "significantly heat generating". This is reflected in the very sensible proposal for a combined GDF. The difference between spent fuel as HLW and spent fuel as ILW is therefore a function of its "cooling" (decay time) post irradiation, and its packing density in the GDF. The long time scale before the likely availability of a UK GDF means that new nuclear operators as well as legacy liability holders will be forced to provide for long-term, safe, non-degrading, recoverable above ground storage for their spent fuel, which will therefore provide for significant cooling. Following completion of the GDF, these storage facilities will most likely continue to be used for interim storage of spent fuel prior to disposal if only to smooth the demand on transport to and within the GDF. Spent fuel will therefore of necessity and for economic reasons be subject to a substantial cooling period prior to disposal. A side benefit of this necessity is that it keeps open the option of processing for fissile Uranium and possibly Plutonium recovery should this become economic and/or in the national interest, which early disposal closes (not to be confused with current UK practice of early processing to separate "products" against a speculative future use).</p> <p>To minimise secondary waste generation from nuclear power stations and to maximise use of scarce fissile Uranium, operators should be encouraged to extract the maximum burn-up from their fuel, consistent with safe reactor</p>

No.	Question
	<p>operation and avoidance of fission product release through fuel failure. By its nature, high burn-up fuel cools more rapidly than low burn-up fuel (though it will always be more heat generating at a given time post irradiation). The proposed charging scheme based on pence per kWh for disposal of spent fuel is not a rational charging basis and discourages this beneficial behaviour.</p> <p>RN spent fuel is high burn-up (though calculation of this in terms of MWdays/tonne would present difficulties and would not give any indication of disposal issues), will be the longest cooled power reactor fuel, and has exceptionally high integrity (there has not, to date, been a single fuel failure either in service or storage). The proposed charging system, if applied to legacy as well as new spent fuel, would therefore discriminate unreasonably against MoD.</p> <p>We would strongly suggest that potential operators are given a charging scheme based on volume for ILW disposal together with a detailed definition thereof including heat generating limits per unit volume. They should then be required to define their spent fuel management and disposal strategies (including options and decision points) and their consequent call upon the GDF in terms of volume, timing and waste type. They should then be charged for this call upon the GDF, and monitored, possibly via the statutory nuclear regulator, to ensure that they are implementing their proposed strategy upon which this call is based. Whilst this involves prospective operators in more work and potentially greater uncertainty, any serious, competent prospective operator should have the understanding and capability to do this. Lack of this ability would cast serious doubt upon the operator's competence as an intelligent customer for the nuclear services which it will need to procure, and hence their credibility as a nuclear licensee. The current proposal aimed at removing uncertainty could encourage perverse behaviour, poor technical choices, short term thinking and a "someone else's problem" attitude.</p>
Chapter 5: Updated estimates of the costs for decommissioning, waste management and waste disposal	
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?
Response	MoD power reactors (RN operated) are quite different in nature to civil power reactors and do not provide us with relevant experience to comment on difficulties and costs associated with waste management and decommissioning of civil power reactors (RN reactors generate much less secondary waste, the fuel is higher integrity and amenable to long term wet storage, and reactor decommissioning promises to be easier due to the absence of fission products outside the fuel).

Please select the category below which best describes who you are responding on behalf of.

- ☐ Business representative organisation/trade body
- ☒ Central Government
- ☐ Charity or social enterprise
- ☐ Individual
- ☐ Large business (over 250 staff)
- ☐ Legal representative
- ☐ Local Government
- ☐ Medium business (50 to 250 staff)
- ☐ Small business (10 to 49 staff)
- ☐ Micro business (up to 9 staff)
- ☐ Trade union or staff association
- ☐ Other (please describe):

Thank you for taking the time to let us have your views. The Government does not intend to acknowledge receipt of individual responses unless you tick the box. ☐

Department of Energy and Climate Change
URN 10D/579