Appendix A - Nuclear Provision

The Nuclear Provision - The cost of cleaning up the UK’s historic nuclear legacy

Estimating Uncertainty
Estimates are classified according to the level of certainty, with ranges applied to reflect this. The NDA estate uses 4 different classes of estimate (A to D) in line with the principles of the HMT Green Book with A being the most certain, and D the least credible outcomes for the latter could range from -50% to +300%. Inevitably as much of the expenditure of the NDA is not scheduled to start until many years or even decades in to the future, using as yet unknown technologies, then the estimates will tend towards class D.

Notwithstanding this uncertainty, the NDA continues to work with the SLCs, scrutinising their long-term plans and benchmarking them against best practice for project and programme costs and schedules and to ensuring that these plans are coherent and consistent with agreed strategies.

Future Uncertainties
Whilst the legacy, and consequently the provision, is better characterised than previously it continues to be subject to ongoing risks that could impact on the costs of delivery, such as: a significant nuclear safety incident leading to delays in the management of current liabilities and/or increased costs; the discovery of currently unknown additional hazards or other challenges; future regulatory or Government policy changes; changes to the final agreed end state for sites and; changes to society’s expectations and requirements.

Future Opportunities
The Sellafield Performance Plan will continue to evolve in future years as the programme develops and individual projects progress. An example of this evolution is the change in strategy for the Magnox Swarf Storage Silo (MSSS) programme in which an alternative waste treatment solution has been proven to be feasible, enabling the removal of the planned Silos Direct encapsulation Plant (SDP) project and its replacement with a better technical solution which is also more efficient and lower cost alternative.

The NDA will continue to review and update the nuclear provision, and to incorporate the impact of new opportunities as they arise - for example acceleration of work on Legacy Ponds and Silos (LP&S), integrated waste management, optimised decommissioning and site restoration. Some of these opportunities may require us to reprioritise our allocation of funding in the short-term but with a reduction in the full lifetime costs.

Basis of Estimate - Sellafield
At Sellafield the nuclear provision estimate combines the cost projections from the current baseline with management estimates as to near term cost pressures and very long-term costs. The provision also includes, as in previous years, the estimated additional costs arising from the preferred strategy for the long term management of plutonium, which are not included in the current baseline.

The underlying undiscounted cost estimate for Sellafield (before adjustment for plutonium) has increased slightly during the year.

Basis of Estimate - Other sites
The maturity of scope in the non-Sellafield SLC plans, and the successful introduction of private sector expertise has enabled NDA to drive value for money for the taxpayer, through the transition from cost reimbursable to target cost incentive fee contract structures. Over time this has led to stabilisation and ultimately reduction in the projected cost of decommissioning.

NDA Expenditure Profile
The first graph shows the undiscounted annual expenditure profile for future years (excluding NDA administrative and other non-programme costs, and some commercial costs), from lifetime cost projections from each of the SLCs.

The expenditure profile illustrates a downward trend in expenditure over the next 50 years, following a short-term peak over the next 10 years, as sites enter into Care and Maintenance, with subsequent increases in expenditure in the period from 2070 when final site clearance work on Magnox sites is undertaken.

Total expenditure profile (£m, undiscounted)
Appendix A - Nuclear Provision

Uncertainty Range - Sellafield
The single point undiscounted estimate is £94 billion.
Examples of uncertainty around this figure:
• A 100% increase in major project costs post 2039, +£27.7 billion
• A 300% increase in major project costs post 2039, +£83.0 billion
• A 50% reduction in major project costs post 2039, -£13.8 billion

Undiscounted Nuclear Provision - Sellafield
£94 billion
(2017/18, £91.4 billion)

Uncertainty Range - Other sites
The single point undiscounted estimate is £30.3 billion.
Examples of uncertainty around this figure:
• A 100% increase in Magnox final site clearance costs, +£5.7 billion
• A 3 year delay to DSRL Interim End State date, +£0.6 billion
• A 300% increase in GDF costs post 2037, +£23.6 billion
• A 50% reduction in GDF costs post 2037, -£3.9 billion

Undiscounted Nuclear Provision - Other sites
£30.3 billion
(2017/18, £29.6 billion)

Uncertainty Range - Total
The NDA estimates the total costs associated with the undiscounted nuclear provision to be within a potential range from £99 billion to £232 billion.
The nuclear provision represents a single point estimate within a range and is NDA management’s judgement of future costs based on plans produced by the SLCs, accepted by the NDA and known changes in assumptions and facts. The increase in the undiscounted provision is due primarily to inflation year on year.

Undiscounted Nuclear Provision - Total
£124.3 billion
(2017/18, £121.0 billion)

Discount Rate Sensitivity
A 0.5% decrease in the discount rates over the life of the estimate would increase the provision by approximately £28 billion while a 0.5% increase would reduce the provision by approximately £20 billion.

Discounting
The nuclear provision estimate is discounted (adjusted to present values) to produce the figure published in the accounts.
Discount rates are revised each year by HM Treasury to reflect the UK government’s borrowing rate and forecast future inflation.
The rates are currently:
• Short-term (0-5 years) -1.34%,
• Medium-term (6-10 years) -0.96%,
• Long-term (11-40 years) -0.11%.
• Very long-term (over 40 years) -0.11%.
The application of these rates produce the overall discounted total as shown in the Authority accounts of £130.7 billion.

Discounted Nuclear Provision - Total (Authority)
£130.7 billion
(2017/18, £234.1 billion)