Financing of “New Nuclear” decommissioning
The role of actuaries
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Disclaimer

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“New Nuclear” power stations

• Government policy

• Long term nature
  – Build 5 years
  – Operate 40-60 years
  – Decommission 20 years plus
  – **Total** up to 100 years

• Economics of nuclear power
  – Capital intensive
  – Long cash flow duration
  – CfD contracts

• Government policy on “New Nuclear” – chances of recourse to the public purse “remote”
  – Need for a Decommissioning and Waste Management plan and Fund
  – Need for Nuclear Liabilities Financing Advisory Board
Generator’s indicative cashflow profile (in real terms)

Build ↔ Operate ↔ Decommission/waste disposal

Cashflow

Five-year periods
Decommissioning and Waste Management Fund

- Independent DWM Financing Fund, role and governance
- Prudent/remote – probability of default
  - Economic risks
  - Design risks
  - Political risks
- Contribution mechanisms
- Surplus refund
- Estimates of costs and cost inflation
DWM Fund’s indicative cashflow profile (in real terms)

Cashflow

Build    Operate    Decommission/ waste disposal

Five-year periods
DWM Fund Assets vs DWM Liability (in real terms)

Build ← Operate → Decommission/Waste disposal

Assets/Liabilities £

Liabilities

Assets

Five-year periods
Issues for funding security

• Early Decommissioning Risk
  – First few years
  – Approaching end of life
  – Alternative funding sources – PCGs/ SPVs/ Insurance/ Captives
  – CfD impact on economic risks

• Cost modelling and cost inflation
  - Expanding funnel of doubt
  - Discount rate sensitivity

• Investment strategy

• Asset/ liability modelling
  – Allowance for uncertain outcomes
  – Prudent/ remote risk of failure
Role and value of actuaries

Role of Actuaries

- Working with Generators/ DWM Funds on fund design, and ongoing risk management
- Not involved in making scientific/ engineering assessments, but need to understand the nature of these estimates, and the range of possible outcomes.
- Working with DWM Funds on fund design, and ongoing risk management
- Design of insurance contracts, especially for EDR?

Value of Actuaries

- Familiar with both sides of the balance sheet
- Risk identification
- Risk mitigation
- Used to very long term nature
- Inherent understanding of mismatching risks