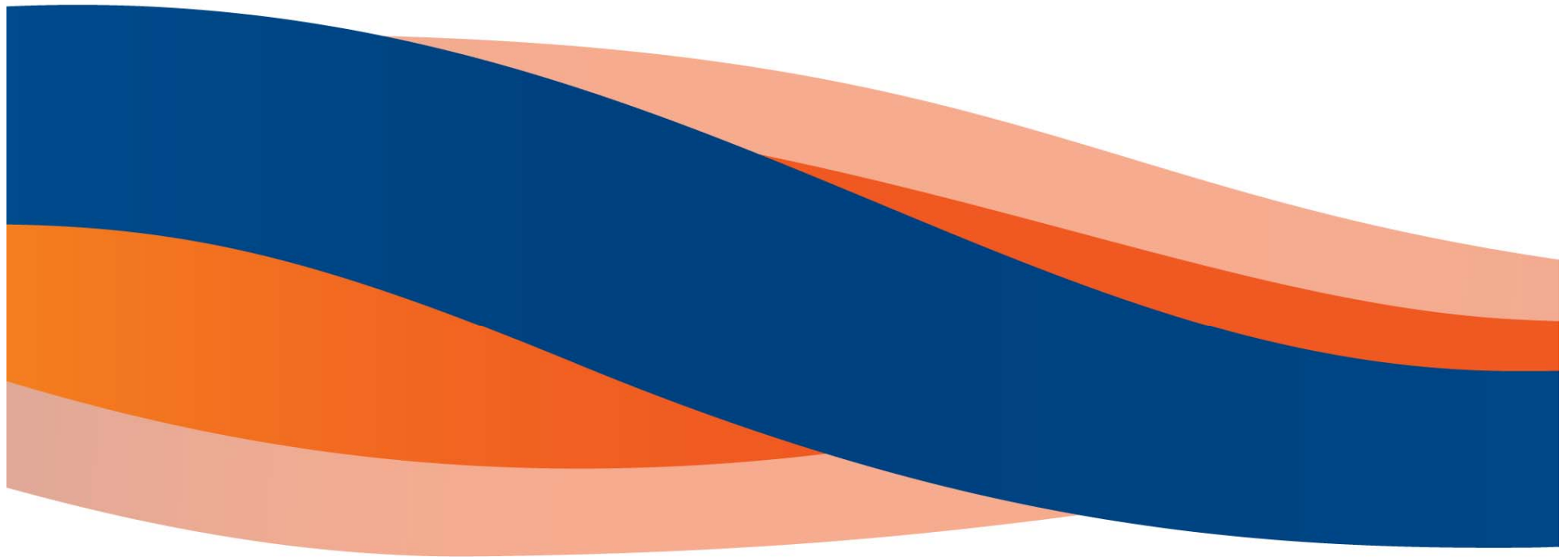


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British Energy AGR Decommissioning Strategy

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The Options



The Options

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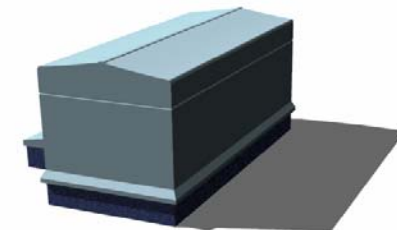
Prompt Dismantling

- > Early removal of all radioactive and non-radioactive plant from site



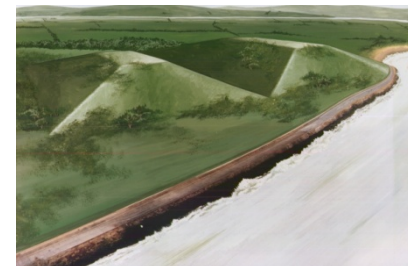
Safestore

- > Early removal of all non-radioactive plant from site
- > Deferred removal of radioactive plant



In Situ Decommissioning

- > Removal from site of non-radioactive plant
- > Encasing of radioactive plant within a carefully engineered artificial hill



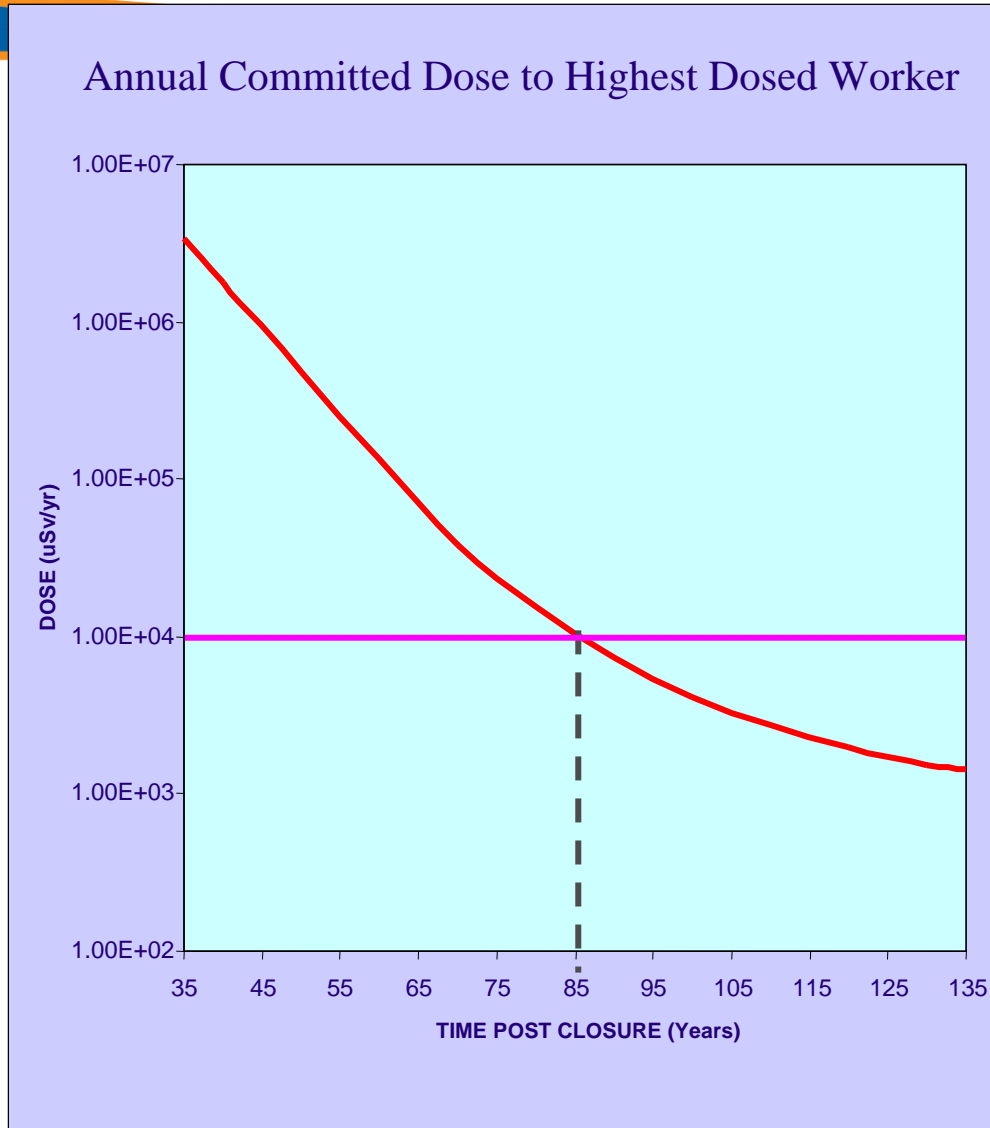
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The Plan



Worker Dose Modeling Results



Key:

- DATA AVERAGE
- 10 mSv DSG Based Limit

- > Safestore is British Energy's current favoured strategy, given the safety, technical, environmental and economic factors
- > Divided into a series of individual phases
 - > Defuelling
 - > Plant dismantling
 - > Safestore construction
 - > Care and Maintenance
 - > Reactor dismantling
 - > Site clearance and release



- > The first major activity following the end of generation
- > Fuel is removed from the reactor much in the same way as routine refuelling
 - > For our AGRs, defuelling will commence about 3 months after the end of generation, and all fuel will be removed over a period of 2-3 years
 - > For our PWR, defuelling will be completed within weeks of shutdown, but the fuel will remain in the ponds for up to 5 years
- > After a period of cooling, it is sent for reprocessing or storage
- > Defuelling removes over **99% of the radioactivity** from plant

Plant Dismantling

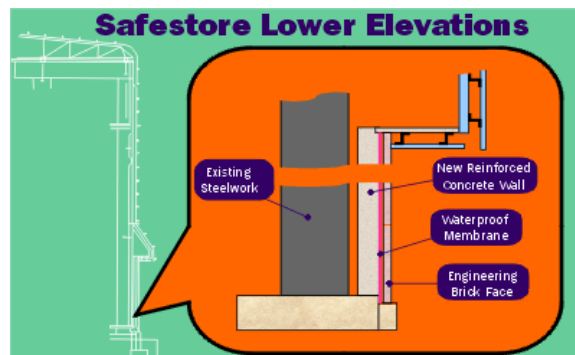


- > Redundant plant isolated and drained, purged, flushed or vented
- > Low Level Waste removed, Intermediate Level Waste removed or stored
- > New site services and facilities installed
 - > e.g. water, electricity, communications
- > Non-radioactive plant dismantled, improving visual impact of site
 - > e.g. turbine hall, ancillary buildings
- > Radioactive plant outside reactor building removed, or moved inside reactor building

Safestore Construction



- > Safestore constructed around existing reactor building
- > Designed to allow the radioactivity within to decay naturally over 85 years
- > Will be passively safe, secure and intruder resistant
- > Existing accesses sealed and a new concealed entrance constructed



Care and Maintenance

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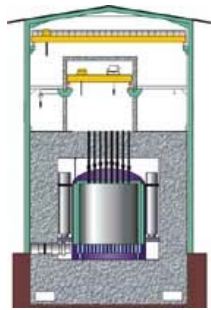
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- > Inspection and surveillance programme put in place to ensure the safestore continues to function as designed
- > Not usually manned, but monitored continuously using alarms, plant monitoring and security systems
- > Periodic inspections to inspect, monitor and maintain the grounds and the safestore building

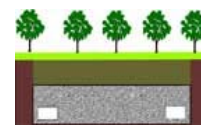
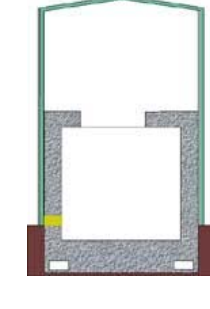
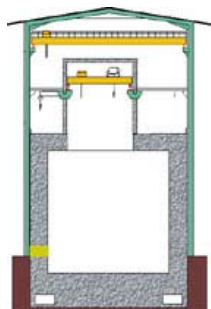
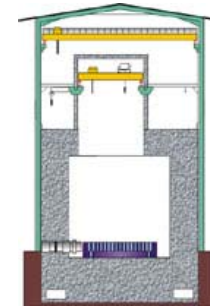
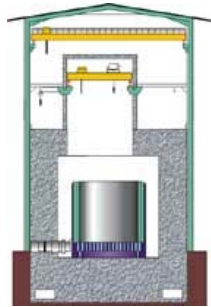
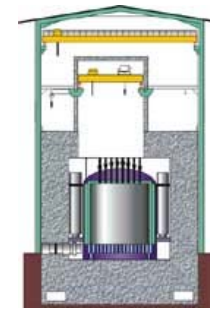


- > Access to the building will be infrequent, but there will be occasional entries to inspect and monitor the internals
- > A programme of radiological and environmental monitoring of the reactor and safestore internals, and of the surrounding area, will be carried out

Reactor Dismantling



- > The reactors, boilers and associated plant will be removed in 'campaigns', each removing a particular material
- > Firstly, the top of the concrete pressure vessel will be removed
- > Next the steelwork at the top of the reactor and boilers is removed
- > The graphite and steel which forms the core of the reactor can then be removed
- > The concrete pressure vessel can now be dismantled and the remaining buildings demolished
- > Suitable inert materials will be used on site to backfill basement areas etc, and the area landscaped



Site Clearance and Release



- > The final stage of decommissioning is the complete clearance and delicensing of the site
- > Following final dismantling, an environmental monitoring programme will be undertaken to check for the presence of any residual radioactivity on the site
- > Any contaminated land issues will be dealt with and the site will then be confirmed clean before being delicensed and made available for re-use



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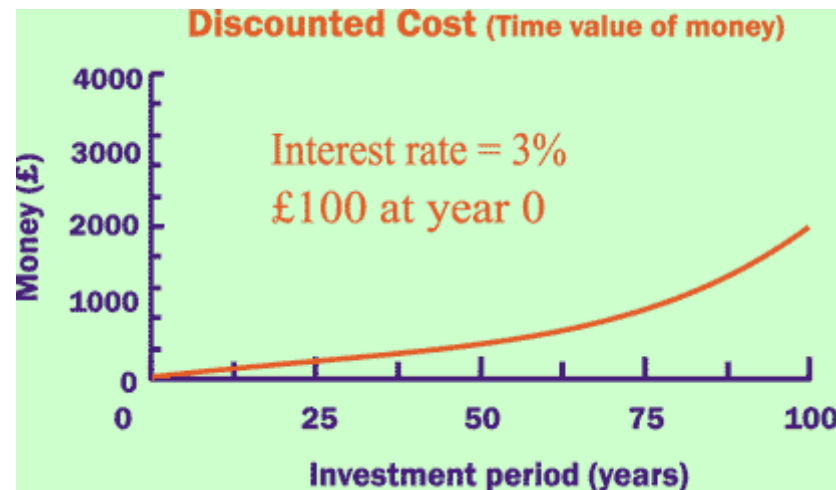
The Cost



The Cost



- > The other benefit of delaying decommissioning is the cost



- > This effect is known as discounting – for every £ we need to spend in the future, we only need to invest a fraction of it now
- > The expected cost to clean up all the UK's current nuclear sites is £73bn (€83bn)

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Questions?

