

Appendix C -

Major Projects Cost and Schedule

Project/Programme	Year initiated	Estimated cost at initiation	Date passed design gate	Estimated cost at design gate (£m)	Estimated cost Sept 2015 (£m)	Estimated cost Mar 2017 (£m)	Estimated cost end date at initiation	Estimated end date at design gate	Estimated end date Sept 2015	Estimated end date Mar 2017
First Generation Magnox Storage Pond (FGMSP) - export	2006	43	Jan 2013	121	121	119	Jul 2009	Oct 2016	Oct 2016	Oct 2016
Key reasons for changes to cost and/or end date from year initiated to March 2017										
Changes in site strategy and funding priorities which also increased the cost of delivering the project. Other increases in cost and schedule have been associated with the complexity of refurbishing an existing radioactively contaminated facility on a highly constrained site adjacent to a sensitive nuclear facility as well as project performance issues.										
FGMSP - Bulk Sludge and Fuel Retrievals	2004	229	Apr 2014	400	380	340	Dec 2012	Dec 2018	Dec 2018	Nov 2019
Key reasons for changes to cost and/or end date from year initiated to March 2017										
Complexity of installing new equipment into an existing radioactively contaminated and sensitive nuclear facility as well as project performance issues.										
Magnox Swarf Storage Silo (MSSS) - Retrievals	-	-	Mar 2007	243	843	843	-	Apr 2015	Sept 2023	Sept 2023
Key reasons for changes to cost and/or end date from year initiated to March 2017										
The need for revisions to methodology and design, and that plans are now more realistic engineering plans, reflecting the complexity of the final build and a better understanding of the installation process. The general trend is one of reducing cost at the present time as opportunities are realised to simplify the design of SEP3 and risks associated with on-site installation activities are mitigated. However, significant risks remain and MSSS is a complex and constrained working environment therefore overall outturn costs have been left unchanged at the present time.										
MSSS - Silo Maintenance Facility	2006	180	Oct 2013	247	247	254.7	Oct 2011	Jul 2018	Jul 2018	Jul 2019
Key reasons for changes to cost and/or end date from year initiated to March 2017										
Escalation that was not included in the original business case, a decision to defer some early procurement activities in FY15/16, contractor performance, and inclusion of additional scope associated with the alternative waste management approach. The completion date is unchanged.										
MSSS - Box Encapsulation Plant	2014	615	-	-	869	869	Jan 2021	-	Apr 2023	Apr 2023
Key reasons for changes to cost and/or end date from year initiated to March 2017										
Changes in scope and design along with different commercial arrangements than had been originally envisaged. Price increases on long-lead time, machinery and equipment is also a factor.										
The final business case is currently being prepared to seek sanction of the project through to completion. Current indications are that the project cost and schedule remain within the ranges stated in the last business case including the scope changes associated with the change in waste management strategy.										

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Pile Fuel Cladding Silo (PFCS) - Retrievals	2005	495	-	-	836	601	Oct 2019	-	Apr 2023	Apr 2021
Key reasons for changes to cost and/or end date from year initiated to March 2017										
In mid-2013 difficulties with the technical complexity of the planned design led to a review of the proposed solution. This resulted in a revised approach which required the redesign of the waste retrievals and handling equipment, increasing the cost and schedule.										
The revised business case approved by Government in September 2016 provided a revised cost and schedule reflecting the simplified approach. This has improved the cost and schedule, with further opportunities for simplification agreed subsequently. Retrievals are scheduled to commence in January 2021.										
PFCS - Box Encapsulation Plant Product Store - Direct Import Facility	2006	119	-	-	291	291	Jan 2019	-	Mar 2020	Mar 2020
Key reasons for changes to cost and/or end date from year initiated to March 2017										
The project has completed concept design and awarded a design and build contract for the completion of the project. This has improved understanding of the scope to complete the project, and the cost and schedule for the works. The latest cost and schedule reflects the target cost contract value, overall project schedule as well as works provided by Sellafield and other sub-contractors.										
Sellafield Product and Residue Retreatment Plant	2015	494	-	-	494	482	Nov 2026	-	Nov 2026	Apr 2027
Key reasons for changes to cost and/or end date from year initiated to March 2017										
Since the previous submission of the Initial Business Case (August 2015), the project range of £129m - £494m has developed and matured during the Concept Design phase. The inclusion of Dounreay feedstock has been incorporated into the project scope and the process building volume has increased. Welfare facilities and a tank farm have increased the scope and the estimate has been revisited on a "bottom up" approach as opposed to previous parametric / volume estimates.										
Separation Ventilation Area	-	-	Aug 2008	144	249	244	-	Aug 2011	Nov 2016	Dec 2016
Key reasons for changes to cost and/or end date from year initiated to March 2017										
Initially increased due to additional design and construction scope to recover from early design weaknesses including poor ground conditions, cable re-routing and protection to plutonium liquor lines. Re-work was required during design and construction to overcome the immature design and clashes during installation. Underestimation of the duration and logistics associated with working in the Separation area which included design and construction durations, scaffolding and crane requirements as well as resources.										
Evaporator D	-	-	Aug 2009	409	740	750	-	Jul 2014	Dec 2017	Dec 2017
Key reasons for changes to cost and/or end date from year initiated to March 2017										
initially increased due to work undertaken on seismic and stress analysis resulting in amended specification requirements and delays in release of design information. Supply chain performance and quality issues have resulted in subsequent schedule and cost impacts. Transfer of incomplete modules to site, a constrained working environment and industrial action have resulted in ongoing construction and commissioning productivity being below that required to meet the original schedule.										
Existing systems didn't meet expected performance, therefore additional engineering was required to resolve this. Ongoing lack of efficiency in final construction activities further impacted the delivery of the project.										

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SIXEP Contingency Plant	2014	394	-	-	394	417	Nov 2024	-	Nov 2024	Nov 2025
Key reasons for changes to cost and/or end date from initiation to March 2017										
This project is in an early phase and as a consequence the estimates continue to mature. The SCP project will submit an updated business case in 2017/18 with a revised P80 cost / schedule taking into account a revised project delivery position.										
Dounreay Decommissioning Programme	2012	1,552	-	-	2,280	2,328	Jan 2025	-	Oct 2029	Oct 2029
Key reasons for changes to cost and/or end date from year initiated to March 2017										
Primarily due to additional exotic fuels work, further security enhancements and design for an extension to the Dounreay Cementation Plant Intermediate Level Waste store. *Due to the transfer of exotic fuels from Dounreay to Sellafield the indicated cost and date are under further review, which it is expected will complete by March 2018.										
National Low Level Waste (LLW) Programme	2011	1,750	-	-	1,750	1,750	Mar 2030	-	Mar 2030	Mar 2030
No change in overall National LLW Programme										
Magnox Decommissioning Programme	Sept 2014	5,537	-	-	-	5,551	Nov 2028	-	-	Nov 2028
Key reasons for changes to cost and/or end date from year initiated to March 2017										
The programme cost included in the table above has been extracted from the Lifetime Plan (LTP) and is to the point at which all sites will have entered their interim states, prior to a period of quiescence known as Care and Maintenance. The cost at initiation and the current estimated cost is broadly the same. This is not unexpected as the work is being delivered in line with the plan cost.										
Berkeley Vault Retrievals	2011	212	May 2013	245	297	259	Mar 2015	Jun 2018	Apr 2020	Nov 2021
Key reasons for changes to cost and/or end date from year initiated to March 2017										
In September 2014, there was a change in the Parent Body Organisation (PBO) and with this an alternative waste management strategy for encapsulation using 6m3 concrete boxes and appropriate interim storage. The original baseline LTP for Berkeley based on conditioning and use of Ductile Cast Iron Containers (DCICs) was replaced in March 2016 with a new Performance Plan implementing the PBO bid strategy.										

NOTE: The historic cost estimates in the table above are expressed in the money values of the year in which the estimate was prepared (i.e. have not subsequently been adjusted for inflation).