

On from the database

BNFL moved on from Excel to use more sophisticated project management software.

BNFL has a strong track record in decommissioning, a process managed by its BNFL Environmental Services unit, with around 50 projects completed to date. Work continues at the Berkeley, Trawsfynydd and Hunterston Magnox reactors, and at other facilities such as the first gas-cooled reactor at Windscale. The first gaseous diffusion plant at Capenhurst has been completely dismantled.

When considering the decommissioning of Magnox plants, BNFL analysed the range of decommissioning approaches with consideration of safety, environmental impact, political and regulatory factors, engineering complexity and cost. The preferred method identified for the Magnox plants was the 'safestore' strategy, based on the principle that the longer the radioactivity in the structures is left to decay, the simpler and more economic it is to dispose of. Under this strategy, decommissioning takes about 100 years although recently a shorter timetable has been under discussion.

HUNTERSTON A

The Hunterston A site, on the west coast of Scotland, was Scotland's first civil nuclear generating station and, in 1964, when it opened, was the largest in operation in the world. The station comprised of two Magnox fuelled, graphite moderated, steel pressure vessel reactors, a unique feature being that on-load refuelling operations were conducted from below the reactors.

Six 60MW turbine generators provided electricity to the grid.

Hunterston A's unit 2 was shut down in December 1989, followed by unit 1 in March 1990. Defuelling, under the safestore strategy, commenced in August 1990 and was completed in January 1995. The last fuel was dispatched from the site in February 1995.

At present, the Hunterston A project team is part way through preparations for the 'care and maintenance' phase, the second of the four defined safestore phases. This began around the end of defuelling and is due to run for a number of years.

Among the challenges facing the project team is the fact that aluminium fuel storage skips were used. The decontamination and disposal of these skips is proving very difficult due to the chemical and radiological problems associated with them. Work continues to develop the best solution to this problem.

Hunterston A's graphite sleeved fuel elements are also a problem. Although the graphite was removed from the fuel elements and was stored on site, the graphite now represents a large volume of solid waste that must be retrieved, processed and encapsulated before its eventual removal to permanent storage.

TOOLS FOR THE JOB

The team began work using Microsoft Project and Excel for programme management, resource management and executive reporting. John Miller, project controls manager at Hunterston A explained: "This involved consolidation

of multiple projects and the use of the project management data to create executive reports. The process was extremely time consuming and we were unable to get the accuracy we required using these tools. Consequently, there was no confidence in the results they produced. We decided that a new software solution was essential."

As a result of that decision, Primavera Enterprise, a project portfolio management solution, was purchased. The software was able to provide visibility and improve overall programme and resource management. It allows more accurate and timely reporting, such as online, real time views of the data. This allows better decisions to be made more rapidly and with increased confidence, maximising the cost performance of the project. Over the project's lifetime, BNFL said it should save around £500,000 (\$910,000).

The ability to create credible, detailed plans is invaluable in both scheduling and in presenting activities to the regulator, who ensures the work is within the nuclear licence agreement. Customers, too, are keen to see comprehensive management and hence reduced decommissioning costs.

In addition, resource management can take place at an enterprise level, with an immediate and accurate overview of how resource assignments affect each project.

Quantification of the team's results became more straightforward. "Monthly reporting was reduced," said Miller. "Consolidation of cost, resource and programme information is no longer a time consuming exercise and the standardisation of resource names and disciplines across projects has greatly improved resource management capability."

He continued: "It is now far easier to take an overview of multiple projects and see how delays in one area affect other areas of work."

Primavera Enterprise is now being rolled out with a view to making it the standard planning tool across BNFL Environmental Services' business, a move that would allow enterprise-wide resource management and improved integration of cross-site projects. ■

Decommissioning work at Hunterston A

