

Enhanced Actinide Removal Plant (EARP)

Customer: British Nuclear Fuels Ltd (Sellafield Ltd)
Project: Enhanced Actinide Removal Plant
Location: Sellafield
Date: 1992
Services: Design, Supply, Construction, Testing, Commissioning and Training
Value: £135 million

Scope of Work

The process design, conceptual engineering, capital cost estimate and preliminary safety case report documentation for the Enhanced Actinide Removal Plant (EARP) were produced by Aker Solutions working alongside BNFL.

After competitive tendering, the £135 million Design and Build contract for EARP was awarded to Aker Solutions in December 1987, thus becoming the first contract of this type to be let by BNFL.

Handover of the plant, described by BNFL as “The Cornerstone” in their £600 million investment programme to clean up discharges to the Irish Sea, took place in April 1992 on time and within budget.

The plant has been designed and built to the highest engineering, safety and quality standards, as demanded by the UK nuclear industry, and incorporates the latest technology for minimum maintenance and zero access throughout the plant’s anticipated life span of 30 years.

Features

Being a high integrity plant, safety considerations were of paramount importance during its design and construction.

The safety work comprised the compilation of comprehensive safety cause documentation, the performance of full HAZOP studies, the assessment of plant reliability and availability and the evaluation of exposure levels to plant operators to maintenance staff, general public, and all other critical groups including marine life.

In order to minimise dose uptake, EARP was, from its inception, designed for absolute minimum access and maintenance. This involved key items of equipment being designed for remote disassembly and transfer through a floor plug into a transportable maintenance flask.

In addition, provision was made for all process equipment to be located within a thick shielded concrete structure and below a shielded operating floor.