

CASE STUDY

Remedial Works on Fire Main at EDF Energy Hartlepool

CLIENT: **EDF Energy Hartlepool**
CONTRACTOR: **Gee Dee Plant**

Project Overview:

EDF Energy Hartlepool approached Gee Dee Plant to carry out remedial works on the fire main around the power station. The need for these works arose due to the life extension of the power station and previous bursts around the site. The fire main, constructed of ductile iron and DN200 in size, presented multiple challenges including severe internal corrosion, tuberculation, and difficult access due to its multiple bends and occasional diameter changes.

Challenges:

- Severe internal corrosion and tuberculation with large build-up of scale and rust.
- Difficult access and multiple bends in the fire main.
- Infeasibility of excavation and replacement due to location constraints.



Solution:

Initial investigation works were carried out to establish a suitable method of rehabilitation. Methods such as CIPP, pull-in-place pressure liners, and slip lining were considered but were limited by constraints such as short time frames, difficult access, and bends. Working closely with suppliers, Gee Dee Plant proposed the use of Acothane Waste seal, a spray-in-place product applied using Schur spray lining equipment. This equipment is designed to coat internal surfaces of construction types ranging



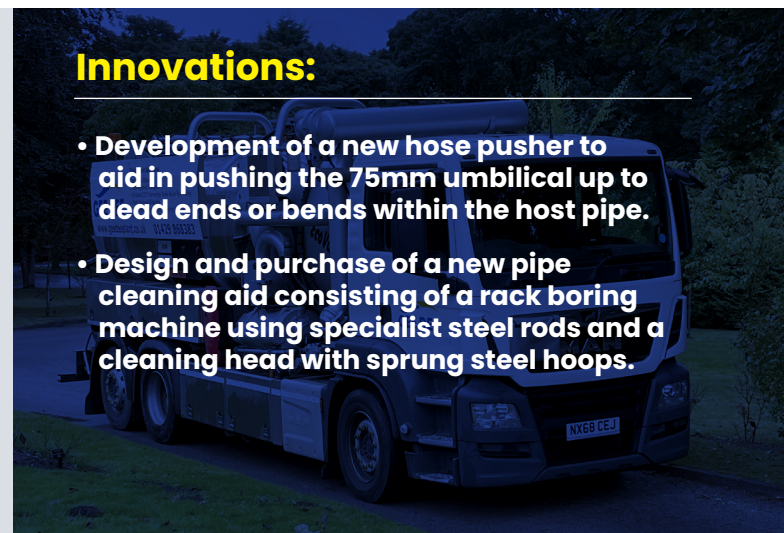
Project Execution:

The project was broken down into five separate phases, each carried out during specific maintenance shutdown periods of 3-4 weeks.

Phase 1 served as a test phase to determine the best method of works and assess the success rates of the proposed method. The confidence gained from Phase 1 led to changes in the engineering drawings for maintenance works to solely use the Acothane Waste seal product.

Innovations:

- Development of a new hose pusher to aid in pushing the 75mm umbilical up to dead ends or bends within the host pipe.
- Design and purchase of a new pipe cleaning aid consisting of a rack boring machine using specialist steel rods and a cleaning head with sprung steel hoops.



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Phase 1:

- Excavation works onto the pipe and removal of bends with sharp radiuses.
- Delivery and pre-loading of spray application equipment with material to avoid onsite handling.
- Successful completion of works, although the process took longer than the initial 2 weeks planned due to cleaning difficulties and access points.



Phase 2:

- Planned for August–September 2025, with initial works starting in July.
- Total of 224m over 8 individual runs, with the longest single access length being 31m.
- Use of a new rack boring machine for cleaning, which managed the longest single length of 104m in a short period.
- Cleaning and drying of pipework, followed by spray lining using Schur equipment.

Results:

- Successful application of Acothane Waste seal with a coating thickness of 6mm.
- Continuous support from product specialists, equipment suppliers, and technical advice specialists.
- Full coating protocols stored and printed directly from the rig, with quality plans produced as required.



Conclusion of Phase 2:

Phase 2 of the remedial works on the fire main at EDF Energy Hartlepool was completed ahead of schedule and under budget. The team successfully coated multiple lengths of the fire main in a single day, demonstrating efficiency and expertise. The excellent customer satisfaction achieved during this phase led to the award of the next three phases of the project, which will be carried out over the next two years. discussions have taken place for the application to be rolled out across the remaining EDF sites throughout the UK, ensuring consistent and reliable rehabilitation of fire mains across the network.