

Sludge Tank Level Monitoring

Background

AMS was contacted by a client to utilise our instrumentation expertise to propose a solution to an obsolescence issue surrounding the level measurement of radioactive effluent in a nuclear power station's effluent storage tanks.

The station needed to have accurate measurement of the levels of various different media within the tanks, however the original level measurement system was obsolete and becoming increasingly difficult to maintain in good working order. A number of factors made finding a suitable replacement particularly challenging. These included: harsh environmental conditions in the tanks, multiple media interfaces in the tanks and the dimensions of the tanks themselves. This led to the client contacting AMS to conduct an optioneering exercise followed by a proof of concept testing phase for the preferred solution.

Scope

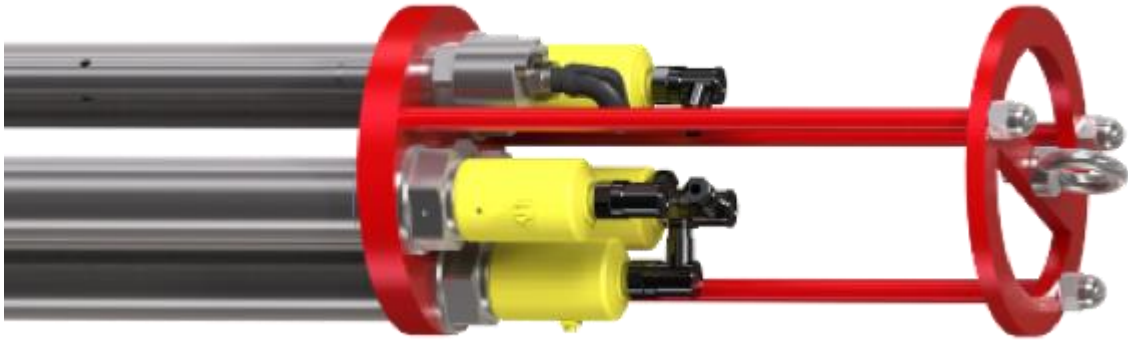
- Conduct a site walkdown and review all technical information regarding the tanks, the required measurements and how the current equipment was used.
- Conduct a thorough review of all available Commercial Off the Shelf (COTS) technologies for measuring level considering the particular technical challenges of the application
- Produce a range of concepts, evaluate the pros and cons of each and recommend a solution
- Conduct proof of concept trials, testing the chosen technologies on representative samples of the differing media types

Outcomes

The outcome of the project was that AMS identified a range of different COTS technologies that when combined in a single custom designed probe assembly could effectively measure the different media types.

Deliverables from the project included:

- Provision of an optioneering report documenting the findings from the technology review, details of a number of possible solutions and a recommendation of which concept to pursue further.
- Development of a test plan and test facilities to prove that the chosen technologies would be able to detect the change in level of the different media types



Key Skills Utilised

AMS was able to utilise a range of skills and capabilities to complete this phase of work including:

- Extensive knowledge of available instrumentation technologies
- Good working relationships with instrumentation manufacturers
- Understanding of client's application
- Understanding of client's processes and procedures for managing obsolescence projects
- Security cleared engineers with site access