



[Form 2 (to be reported to Committee on Countermeasures for Contaminated Water Treatment and to be disclosed to public)]

Technology Information	
Area	Accumulation of Contaminated Water (Storage Tanks) (1) Removal of radioactive materials from Seawater in harbor. (3)
Title	High Pressure Water Jetting of Contamination from Storage Tank Internals prior to Tank Cutting Activity.
Submitted by	North West Projects Ltd. Rutherford Point, Eaton Ave. Matrix Park, Chorley PR7 7NA England UK
<p>1. Overview of Technologies (features, specification, functions, owners, etc.)</p> <p>North West Projects Ltd (NWP) are a Nuclear Design Company who work extensively for Sellafield Ltd and the NDA sites within the UK. (NWP employ 160 nuclear designers who have previously designed in situ tank cleaning equipment for similar tanks at Sellafield, to those at Fukushima.</p> <p><u>Storage Tank Cleaning</u></p> <p>The equipment was successfully deployed and removed surface contamination including Cs137 and Sr90. and gamma radiation greater than 50uSv/hr.</p> <p>The typical scheme is shown below</p> <div data-bbox="248 1330 1129 1984" style="background-color: #0070C0; color: white; padding: 10px;"> <h2 style="text-align: center; margin: 0;">SIXEP Bulk Storage Capacity Increase</h2> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Concept Design for Deployment Arm for high pressure water jet cutting.</p> <p>Considerations</p> <ul style="list-style-type: none"> - Access - Installation - Maintenance - Recovery - Removal </div> <div style="width: 45%; text-align: center;">  <p style="font-size: small; margin: 0;">Graphic showing the pipe-cropping tool in one of the tanks</p> </div> </div> <div style="text-align: right; margin-top: 10px;">  </div> </div>	

Removal of Radioactive materials from Seawater in the Harbour

NWP have deigned various sludge Retrieval systems that have been successfully deployed at Sellafield in the Legacy Fuel Storage Ponds, which could be deployed in the harbor area where sludge and sea bed disturbance is an issue.

B30 Pond Sludge Retrievals

Optioneering

Concept

Design

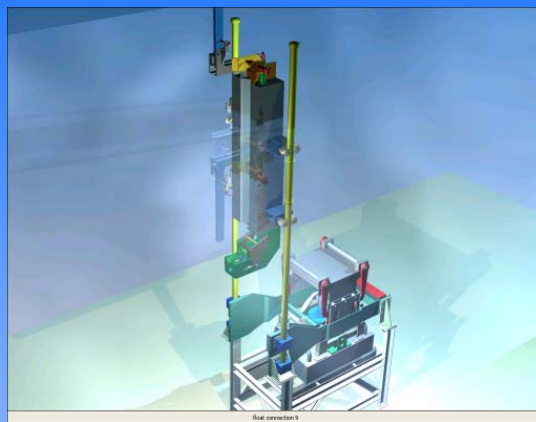
Stress Analysis/Calcs

Risk Assessments

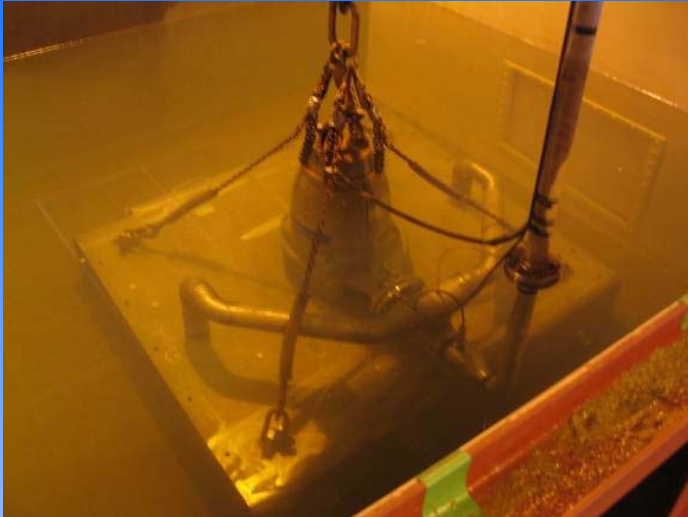
Installation Methods

Maintenance Operations

Dose Uptake



Pond Sludge Retrieval Trials



Sludge Retrieval Hood

- Design
- Supply
- Test
- R & D Trials
- Report

Value £85K

Ref: Trevor Ashcroft



Notes (Please provide following information if possible.)

- Technology readiness level (including cases of application, not limited to nuclear industry, time line for application)

Both of the equipment schemes were successfully deployed and removed contamination including Cs137 and Sr90, and gamma radiation greater than 50uSv/hr.

The Technical readiness level is considered to be 8 to 9

The size of the Sellafield SIXEP tank was a similar size to the Fukushima tanks. The equipment can be readily deployed with minimal manual access required

- Challenges

Access to the site in Japan to conduct site surveys.

- Others (referential information on patent if any)

NWP can quickly deploy a team to work on this scheme. The schemes were designed for NDA and therefore there is no issue with using the concept.

【Areas of Technologies Requested】

- (1) Accumulation of contaminated water (Storage Tanks, etc.)
- (2) Treatment of contaminated water (Tritium, etc.)
- (3) Removal of radioactive materials from the seawater in the harbor
- (4) Management of contaminated water inside the buildings
- (5) Management measures to block groundwater from flowing into the site
- (6) Understanding the groundwater flow