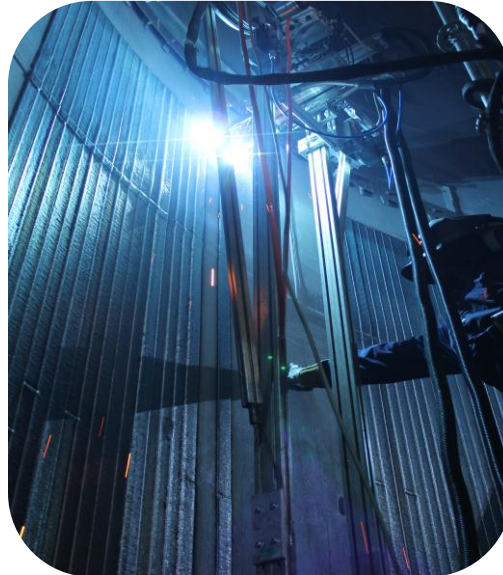




Mechanized weld overlay on-site



Vacuum Tower

Total area: 240 m²

Welding crew: Four welding operators per shift

Filler material: AWS A%.14 ERNiCrMo-3
EN ISO 18274 S Ni 6625

Thickness of weld overlay: 3mm

Method: The Uddcomb Method (vertical)

Base material: ASTM A516 Gr 70 bonded with ASTM A240 410S

Engineering

Six new WPQRs according to EN ISO 15614-7 were qualified at our own metallurgical laboratory in Karlskrona as part of our delivery.

Structural integrity

In addition a structural integrity and distortion analysis was provided as part of the delivery. The analysis also provides an indication regarding required measurements for fitting new internals after weld overlay

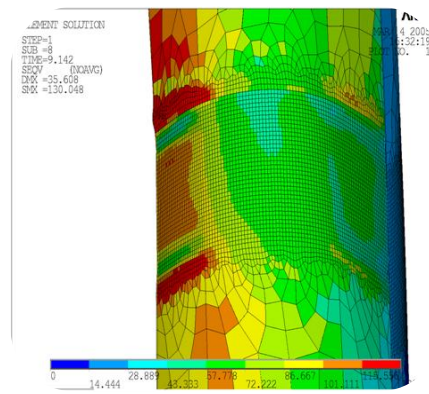
Corrosion condition before



Pitting corrosion in roll bonded 410S clad plate.

Welding pre-test

A welding pre-test of the roll bonded cladding was made in order to verify the quality of the cladding and to verify the bondage to the base material.



FEM Analysis



Weld overlay of Manifold



Remote controlled welding equipment

Background: Six years of operation has caused corrosion and erosion damages in the manifolds made of 410S compound material. A mechanized weld overlay solution was used instead of replacement.

Total area: 63 m²

Welding crew: Two operators per shift.

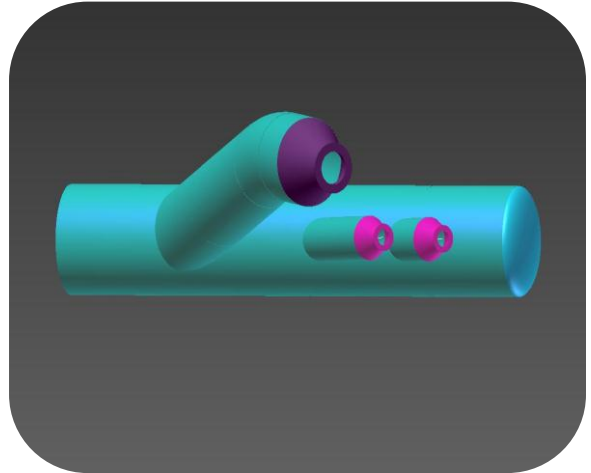
Filler material: AWS A%.14 ERNiCrMo-3
EN ISO 18274 S Ni 6625

Thickness of weld overlay: 4,5 mm

Method: Horizontal

Base material: ASTM A387 Gr 11 CL 2 roll bonded with ASTM A240 410S

Six new WPQRs were qualified at our own metallurgical laboratory in Karlskrona, as part of our delivery.



Dimensions

Main pipe (L): 8000mm, I.D 1450mm

Connecting purple pipe (L): 7000 mm, I.D 1180mm

Connecting pink pipes (L): 3000 mm, I.D 600mm

Engineering

The unique and flexible weld overlay system with camera surveillance was developed for the project. The unit was operated remotely without manpower inside the vessel.

The remote controlled welding system was developed and qualified by our equipment engineering team in Karlskrona.

Contact:

Johan Apell

Tel +46 766 48 95 68

E-mail johan.apell@areva.com

www.areva.se/uddcomb