



Visual inspection of carbon-steel boiler with magnetic crawler

Collaboration project between CS Energy - a major Australian electricity generator - and Invert Robotics results in the first remote inspection of a water tube boiler.

As proponents of best practice and safety, CS Energy has a strict inspection schedule for its coal-fired boilers. Ranging from 40 to 60 meters in height, preliminary inspections are done after boilers have been in operation for a nominal two years. A major overhaul is undertaken after a nominal four years costing up to \$1.0 million per day to have a boiler out of production.

Quick return to service

'Traditionally (with the human inspection approach), it can take up to three days to build safe scaffolding, and two days to dismantle the scaffolding at the completion of an inspection. This means we're looking at a minimum of about five days, plus the inspection time and/or repair time before the boiler can be returned to service,' explains Dr Chris Spero of CS Energy.

The inspections using our robot crawler involved remotely viewing areas of particular concern, including the burners, circumferential cracking of the boiler tubes, cracking of the steel membrane between boiler tubes, ash build-up, damage to the

boiler nose, and any ash build up or damage to pendant superheaters.

Spero: 'The robotic inspection was completed during a mini-shutdown of the boiler. The acquired data will help the CS Energy team to further streamline their work repair schedule.'

Interested to learn how we can help you using our unique robotic crawler? Contact our nearest sales representative!



Technical Information

Vessel type	Water tube boiler
Vessel size	Ø5 m
Vessel material	Carbon steel
Robotic platform	H2200
NDT method	Full HD @ 30fps