

Subsea Tree Valve Stem Override Adaptor (VSOA)

Neptune designed and manufactured a range of ROV-deployable valve override adaptor tools that match a diver valve override interface and provide an API interface for standard ROV override tooling. The VSOA has the capability of maintaining the override without external power source. The equipment was successfully employed for various decommission campaigns.

Client: Undisclosed

Time: 2015 – 2016

Location: UK North Sea,
North East of Shetland Islands

A major UK operator had a requirement to carry out decommissioning work on some of their wells. The subsea trees in place were designed for diver-installed valve override tools. During decommissioning, some of these Christmas tree valves had to be overridden. An ROV-deployable override tool had to be provided, but such tool was not readily available on the market.

Neptune was first engaged to develop a concept and make a commercial proposal in competition with a major ROV and subsea construction company. Neptune won the project and was contracted to complete the full scope of the design, manufacture, assembly and test of the Valve Stem Override Adaptor (VSOA) tool. The tool would interface with the existing subsea tree valve actuator, to provide an interface for any industry standard ROV-installable valve override tool. The design was engineered from first principles, working to a client requirement statement and XT interface details.

The **Neptune** VSOA tool is deployable by an ROV (at a depth of 190m below mean sea level), with no diver assistance. Once interfaced with the valve stem, the tool provides an interface for standard tooling to be connected to actuate the valve – mitigating the need for diver deployment.

Four units were manufactured, factory acceptance tested and successfully deployed in 2016.



Figure 1: VSOA engineered by Neptune.

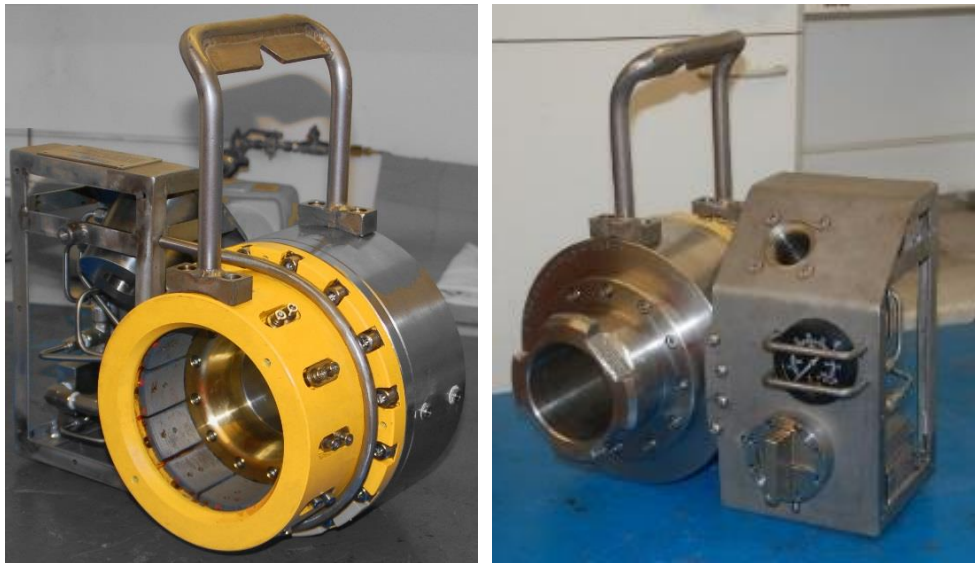


Figure 2: VSOA manufactured and tested by Neptune.



Figure 3: VSOA installed on XT valve stem, providing API 17H interface for valve override.