

Test of a BOP/Riser Connection with an External Inflate (EI) Inflatable Packer
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Abstract

With the oil and gas industry increasingly looking for energy offshore, there will be growing costs associated with the complexity of drilling below the ocean floor in deeper water. A leak detected after latching the lower marine riser package (LMRP) in deep water can cost the rig and the energy producer up to a staggering \$12 million in lost time. Clearly, there is a need to be able to test the BOP/riser connection and cap seal for pressure integrity at surface before the operator runs to depth with the LMRP.

This paper describes a procedure to test at surface for leaks inside the BOP, at the cap seal and annular seal; all connections are tested offline and, most importantly, these tests do not interfere with drilling operations. This method is also safe and economical since it uses existing, field proven equipment and can be performed in as little as half an hour. First, the tool is inflated inside the BOP, above the cap seal. Pressure is then applied from below the tool to test this seal's integrity. The tool can then be inverted and placed higher up in the BOP in order to test any of the BOP/riser connections. In either position, by observing the applied pressure, it is possible to confirm the presence or absence of a leak, as well as its location.

A case study is presented, showing conclusive results. Testing did detect the presence of a leak, which was fixed, and subsequent test runs did in fact confirm this.

[Complete paper](#)