

Temporary Storm/Cyclone Well Suspension Using Inflatable Packer System
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Abstract

The official tropical cyclone season in Australia runs from November 1st to April 30th and in a normal season it is usual to expect an average of at least 10 cyclones to develop over Australian waters. They are particularly prevalent on the North West Australian coast where drilling activity, especially in deep water is currently ongoing. With the approach of a cyclone it is standard practice, as mandated by government regulatory bodies in the guidelines for offshore well operations (Ref. 1), to temporarily plug the well. These regulations call for temporary barriers to be installed in the well to provide the safety required when the rig is evacuated or, in the case of semi-submersible or floating rigs, disconnected from the well and even moved off location.

It is not uncommon with today's drilling technology to use long large-diameter casing strings, such as 20" OD (508mm), to depths of as much as 2000m (6562ft), but the availability of matching hook wall packers to be used as temporary plugs is severely limited and, as a consequence, the provision of the contingencies for emergency suspension or abandonment of such wells can present a major operational problem. To address this situation a large diameter inflatable packer/bridge plug system has been developed which can be run and set in several different casing diameters and left in the hole as a bridge plug to hold pressure from below to fulfill the regulatory, and safe operating requirements, that are mandated.

In this paper the author will review the design and operation of this large diameter inflatable bridge plug and describe the running procedure and the setting, retrieving and fluid handling tools that are required for safe and reliable operation. The author will present a case history of the deployment of this system in the offshore North West Australia operational area in severe weather and cyclonic conditions.

[Complete paper](#)