

Deployment Methods Utilized in Riserless Light Well Intervention (RLWI) by Grant Pierce



The deployment methods most commonly utilized (in no particular order) in RLWI are:

- 1) Deployment through moonpool with the use of a MHT with an Active Heave Compensated (AHC) winch
- 2) Deployment over the side with the use of an AHC crane

With the first method mentioned, MHT are typically found on specialized Light Well Intervention Vessels (LWIV), though smaller versions may be present on some Subsea Equipment Support Vessels (SESV) & Construction Vessels (CSV). The MHT is situated over a moonpool area, and that is where the majority of subsea equipment is deployed. They allow for more bulky lifts as equipment can be stacked up prior to deployment, MHT can be likened to a Drilling Rigs derrick.

The RLWI package is typically stored in close proximity to the MHT, assembled and tested, on a skid trolley in a parked position, thus saving rig-up time offshore. These towers typically have an AHC subsea winch and a series of smaller winches mounted up top (pod and guide wire winches); some to stabilize movement of load (by use of guide wires), winches (and sheaves) for umbilical, and tie off points for wireline sheaves, etc. There could be some type of “cursor/tension frame”, an upper & lower frame which supports the Well Control Package entering and exiting the moonpool until landed out on a 150T skid trolley and secured.

From the skid trolley, the RLWI package is transferred to a position above the moonpool where the assembly is lifted and lowered through the splash zone by two cursor frames. If applicable, four guide wires are utilized preventing unintended movement of the package. Active heave compensation allows the winches to effect a controlled and secure landing, and disconnection.

Next, “Over the Side” deployment where AHC crane deploys Well Control Package over the side. Typically this method is utilized when a Vessel of Opportunity (VOO) is being used and a MHT is not present, and there may or may not be a moonpool to deploy equipment packages through.

The Well Control Package (WCP) will be deployed, landed, latched, and then typically the Wireline Sheave is hung off on the fast line and Lubricator Section (LS) is hung off on the main line, of the AHC crane. Wireline tools will be made up horizontally and pulled up into the LS for deployment or deployed alone through open water with ROV assistance depending on method

utilized. When work is complete the well is secured and the LS is unlatched from the WCP and retrieved back to surface

If there is a moonpool available on the VOO, an A-Frame or Mini Tower can be utilized and the operational steps will be much like deploying over the side with the exception of Wireline Sheave being hung off on the A-Frame or Mini Tower.

In the case a MHT is not permanently installed on the vessel being planned to utilize, there are third party options available depending on the scope of work to be done, from lighter Wireline Towers to heavier Coiled Tubing Work Towers.