Remote Communication with Subsea Running Tools via Blowout Preventer

Abstract of the Disclosure

An acoustic modem (45) located on a blowout preventer stack (19) communicates with a running tool acoustic modem (51) located on a subsea running tool (23) disposed within a subsea wellhead (13), tree or tubing spool. The acoustic modem (45) and the running tool acoustic modem (51) transmit and receive acoustic signals through a column of fluid in the blowout preventer stack (19). The acoustic modem (45) is communicatively coupled to a subsea electronics module (31) located on the blowout preventer stack (19) and further communicatively coupled to a central control unit (27) located on a platform (25) at the surface. The running tool acoustic modem (51) is communicatively coupled to a controller (53) that receives data from sensors (61) on the running tool (23) and sends operational signals to functions of the running tool (23). An operator at the surface may control the running tool (23) through the acoustic modems (45, 51), and the running tool (23) may communicate the running tool (23) status to the operator through the acoustic modems (45, 51).

Figure 1