

EXTENDING THE LIFE OF A COMPROMISED UMBILICAL

ABSTRACT OF THE DISCLOSURE

A method of using an umbilical between a surface location and an underwater location of an underwater fluid extraction well system is provided, the umbilical carrying an electrical power conductor and having been compromised by the leakage of current from the conductor to surrounding water. Electrical power from a source at the surface location at a first frequency is converted to electrical power at a second frequency, lower than the first frequency, or to DC electrical power; the electrical power at the second frequency or the DC electrical power is transmitted to the underwater location via the conductor; and at the underwater location, the electrical power at the second frequency or the DC electrical power is converted to electrical power at a frequency used by underwater equipment of the well system.

Figure 1b