DRILLING VESSEL DEVICE

This invention relates to a drilling vessel. More specifically it relates to a drilling vessel with a deck structure comprising at least a main deck with multiple generators, and a cellar deck providing a passage for at least a main cable from a generator to a consumption item. The cellar deck is provided with at least one about the vertical centre of the drilling vessel surrounding, possibly divided cable compartment.

The most important functional systems on a drilling vessel must, to satisfy current regulations, have a certain overcapacity such that for example safe positioning by means of for example thrusters can be maintained even if unintended events should occur.

Events of this kind may comprise damage caused by outside events where one or more components are put out of action, or internal damage in the form of breakdown, fire, flooding or the like.

In prior art e.g. propulsion plants are split into groups whereby safe operation can be maintained even if one of the groups should fail. It is also common that components from one group may be activated to serve another group if the need should arise.

It is obvious that for example adequately segregated running of cables on a drilling vessel from generators via distribution boards and to said thrusters, typically via a deck, columns and pontoons, can be challenging. It is common being capable of continuing operation following a single damage to the vessel.

This means that a fire e.g. in a supporting column must not damage the power supply to more than for example one quarter of the thrusters. When the requirement, as an example, is that thrusters belonging to the same group and placed in different positions in the vessel shall remain intact even if the vessel is damaged, the complexity of running of cables is increased considerably. Important cables should therefore be placed in different areas and spaced well apart, which due to limited space is difficult to achieve.

The object of the invention is to mitigate or reduce at least one of the disadvantages of prior art.

The object according to the invention is achieved by the features stated in the description below and in the following claims.

A drilling vessel in accordance with the invention comprising a deck structure including at least a main deck with multiple generators, and a cellar deck providing a passage for at least a main cable from a generator and to a consumption item, is characterised in that the cellar deck is provided with at least one about the drilling vessel vertical centre surrounding cable compartment.

The cable compartment may extend along the outer wall of the cellar deck and in approximately full deck height. It may also be practical that the cable compartment extends at a distance from the outer wall of the cellar deck.

The generators power cables extend to respective distribution boards wherefrom main cables are laid to the various thrusters and to other consumption components. By laying the cables via cable compartments in the cellar deck, the main cables from a distribution board may be laid separately from main cables belonging to other distribution boards and thereby be kept apart from other main cables along the complete laying path from its respective distribution board and to for example a column where it may be lead down to its respective thruster via a shaft.

It is often necessary to employ two separate cable compartments to achieve adequate spacing of the various cables. The cable compartment may be provided with bulkheads and intermediate decks which e.g. divides the cable compartment into fire zones.

Advantageously the cable compartments may in a manner known *per se* be shielded from e.g. fire or mechanical loading.

Use of the device according to the invention provides a substantially improved and well arranged and uncomplicated layout of important power and control cables on a drilling vessel since no main cables from different distribution boards and to important consumption items run in a common compartment.

In the following an example of a preferred embodiment is described and illustrated in the appended drawings wherein:

Figure 1 shows a schematic side elevational view of a drilling vessel provided with a cellar deck;

Figure 2 shows schematically a section Ia-Ia of Fig. 1;

Figure 3 shows schematically a section Ib-Ib of Fig. 1; and

Figure 4 shows schematically a section Ic-Ic of Fig. 1.

In the drawings the reference numeral 1 indicates a drilling vessel comprising a deck structure 2 and where pontoons 8 carry the deck structure 2 via columns 4, which extends up through the sea surface 6. The deck structure 2 is provided with a drilling derrick 10, a pipe rack 12 and a living quarter 14.

The deck structure 2 comprises a cellar deck 16 positioned above the columns 4 and a main deck 18 positioned above the cellar deck 16. An intermediate deck 20 and a pipe rack deck 22 are provided above the main deck 18.

The cellar deck 16 comprises an outer cable compartment 24 and an inner cable compartment 26 where both encircle the vertical centre axis 28 of the drilling vessel 1. The cable compartments 24, 26 are formed such that equipment placed in the cable compartments 24, 26 to the largest possible extent are shielded from events taking place elsewhere on the drilling vessel 1.

The pontoons 8 are on their underside provided with a first to an eighth thruster 30a-30h. The thrusters 30a-30h, constituting consumption items, are each driven by an electric motor (not shown) positioned within the pontoons 8 just above their respective thrusters 30a-30h.

In Fig. 2 the section Ia-Ia shows a plan view of the main deck. In the section Ia-Ia, only energy supply components such as first to fourth generator 32a, 32b, 32c and 32d and accompanying first to fourth distribution board 34a, 34b, 34c and 34d are shown.

First to eighth main cable 36a-36h runs as explained below between their respective distribution boards 34a-34d and to

corresponding thrusters 30a-30h. It is emphasized that none of the main cables belonging to different distribution boards 34a-34d shall run in a common room.

To minimise the effect of e.g. a generator breakdown, each of the generators 32a-32d powers two of the thrusters 32a-32d whereof the two relevant thrusters, for example the second thruster 30b and the fifth thruster 30e, which in the embodied example is powered by the third generator 32c via the third distribution board 34c, are diagonally positioned relative to each other on the drilling vessel 1.

A first main cable 36a runs from distribution board 34a via the outer cable compartment 24 to a first thruster 30a, and a sixth main cable 36f runs via the outer cable compartment 24 to a sixth thruster 30f, see Fig. 3 where also the distribution boards 34a-34d are indicated even if they are positioned on the main deck 18.

Correspondingly, from the second distribution board 34b, the third main cable 36c runs via the inner cable compartment 26 to the third thruster 30c, and the eighth main cable 36h via the inner cable compartment 26 to the eighth thruster 30h.

From the third distribution board 34c, the second main cable 36b runs to the second thruster 30b, and the fifth main cable 36e to the fifth thruster 30e. Both main cables 36b and 36e run in the outer cable compartment 24, but in opposite directions relative to each other.

From the fourth distribution board 34d, the fourth main cable 36d runs to the fourth thruster 30d, and the seventh main cable 36g to the fifth thruster 30g. Both main cables 36d and 36g run in a common direction in the inner cable compartment 26.

As shown in Fig. 3, the third main cable 36c, connected to the second distribution board 34b, runs in parallel to the fourth main cable 36d and the seventh main cable 36g, both being connected to the fourth distribution board 34d, in a common portion 38 of the inner cable compartment 26. However, there is arranged an intermediate deck (not shown) in the portion 38 of the inner cable compartment 26 to separate the third main cable 36c from the main cables 36d and 36g.

There is further arranged a number of bulkheads 40 in the cable compartments 24, 26.

The cable compartments 24, 26 correspond with cable shafts 42 running in the columns 4 and which thereby provide a protected path for the respective main cables 36a-36h up to the thrusters 30a-30h. The cable shafts are indicated in Fig. 4.

C L A I M S

1. A drilling vessel (1) device comprising a deck structure (2) including at least a main deck (18) with several generators (32a, 32b, 32c, 32d), and a cellar deck (16) providing a passage for at least a main cable (36a, 36b, 36c, 36d, 36e, 36f, 36g, 36h) from a generator (32a, 32b, 32c, 32d) to a consumption item (30a, 30b, 30c, 30d, 30e, 30f, 30g, 30h), c h a r a c t e r i s e d i n that the cellar deck (16) is provided with at least one about the central vertical axis (28) of the drilling vessel (1) encircling cable compartment (24, 26).

2. A device according to claim 1, c h a r a c t e r i s e d i n that an outer cable compartment (24) runs along the outer wall of the cellar deck (16) in approximately full deck height.

3. A device according to claim 1, c h a r a c t e r i s e d i n that an inner cable compartment (26) runs at a distance from the outer wall of the cellar deck (16) in approximately full deck height.

4. A device according to claim 1, c h a r a c t e r i s e d i n that the cable compartment (24, 26) is provided with bulkheads 40 dividing the cable compartment (24, 26) into zones.

5. A device according to claim 1, c h a r a c t e r i s e d i n that the cable compartment (24, 26) is provided with decks dividing the cable compartment (24, 26) into zones.