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CLAIMS

1. A safety joint to be included in a riser between a floating structure and a subsea installation, the safety joint (30) comprising a first riser coupling (31) at its upper end (32) for connection to a corresponding riser coupling of a riser joint and a second riser coupling (33) at its lower end (34) for connection to a corresponding riser coupling of a riser joint or stress joint, **characterized** in that the safety joint (30) comprises an emergency disconnect package (35) with an emergency disconnect coupling (36) arranged between the upper end (32) and the lower end (34) of the safety joint.

2. A safety joint according claim 1, **characterized** in that the emergency disconnect package (35) also comprises a retainer valve unit (37) arranged in series with the emergency disconnect coupling (36) between the upper end (32) and the lower end (34) of the safety joint.

3. A safety joint according to claim 2, **characterized** in that the retainer valve unit (37) is arranged between the emergency disconnect coupling (36) and the upper end (32) of the safety joint.

4. A safety joint according to any of claims 1-3, **characterized** in that the safety joint (30) comprises a weak link (42) arranged in series with the emergency disconnect package (35) between the upper end (32) and the lower end (34) of the safety joint.

5. A safety joint according to claim 4, **characterized** in that the weak link (42) is arranged between the emergency disconnect package (35) and the lower end (34) of the safety joint.

6. A safety joint according to any of claims 1-5, **characterized** in that the emergency disconnect coupling (36) has two coupling

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parts (36a, 36b) which are releasable from each other by means of a remote-controlled actuator.

7. A safety joint according to claim 6, **characterized** in that said actuator is a hydraulic actuator.

8. A safety joint according to claim 7, **characterized** in that the safety joint (30) is provided with an accumulator unit (40) comprising one or more accumulators (41) for accumulating hydraulic fluid under pressure, the hydraulic actuator of the emergency disconnect coupling being connected to said accumulator unit (40) in order to allow hydraulic fluid under pressure to be supplied from the accumulator unit to the hydraulic actuator when the hydraulic actuator is to release the two coupling parts (36a, 36b) of the emergency disconnect coupling (36) from each other.

9. A riser extending between a floating structure and a subsea installation, the riser (1) comprising a stress joint (10) at its lower end, **characterized** in that the riser (1) comprises a safety joint (30) according to any of claims 1-8, the safety joint (30) being arranged above the stress joint (10).

10. A riser according to claim 9, **characterized** in that one or more riser joints (14) are provided between the stress joint (10) and the safety joint (30).

11. A riser according to claim 9, **characterized** in that the safety joint (30) is connected directly to the stress joint (10).

12. A riser according to any of claims 9-11, **characterized** in that the riser (1) is a completion and work over riser.

CLAIMS

1. A safety joint to be included in a riser between a floating structure and a subsea installation, the safety joint (30) comprising:

a first riser coupling (31) at an upper end (32) of the safety joint for connection to a corresponding riser coupling of a riser joint,

a second riser coupling (33) at an lower end (34) of the safety joint for connection to a corresponding riser coupling of a riser joint or stress joint, and

an emergency disconnect package (35) having an emergency disconnect coupling (36) arranged between the upper end (32) and the lower end (34) of the safety joint, the emergency disconnect coupling (36) having an upper coupling part (36a) and a lower coupling part (36b) that disconnect upon command from an actuator,

the emergency disconnect coupling (36) being positioned at a location where it will be subject to minimum bending loads.

2. The safety joint according claim 1, wherein the safety joint further comprises a weak link configured to automatically break when subjected to a tensile force exceeding a predetermined limit.

3. The safety joint according claim 2, wherein the weak link is located below the emergency disconnect coupling (36), and wherein the emergency disconnect package (35) further comprises a retainer valve unit (37) arranged in series with the emergency disconnect coupling (36) between the upper end and the lower end of the safety joint, and wherein the retainer valve unit is arranged between the emergency disconnect coupling and the upper end of the safety joint, and wherein the retainer valve unit (37) is arranged between

the emergency disconnect coupling (36) and the upper end (32) of the safety joint.

4. The safety joint according of claim 1, wherein the safety joint further comprises a weak link (42) configured to automatically break when subjected to a tensile force exceeding a predetermined limit, and wherein the weak link is arranged separate from and in longitudinal series with the emergency disconnect coupling of the emergency disconnect package (35) between the upper end (32) and the lower end (34) of the safety joint.

5. The safety joint of claim 4, wherein the weak link (42) is arranged between the emergency disconnect package (35) and the lower end (34) of the safety joint, and below the emergency disconnect coupling adjacent the lower end of the safety joint.

6. The safety joint of claim 1, wherein the safety joint comprising the emergency disconnect coupling is located one or two riser joints above the stress joint.

7. The safety joint of claim 1, wherein the actuator is a remote-controlled actuator, wherein the upper coupling part (36a) and lower coupling part (36b) of the emergency disconnect coupling (36) are releasable from each other by means of a remote-controlled actuator, and wherein said actuator is a hydraulic actuator.

8. The safety joint of claim 1, wherein the safety joint has an accumulator unit (40) comprising one or more accumulators (41) for accumulating hydraulic fluid under pressure, the hydraulic actuator

of the emergency disconnect coupling being connected to said accumulator unit (40) in order to allow hydraulic fluid under pressure to be supplied from the accumulator unit to the hydraulic actuator when the hydraulic actuator is to release the upper and lower coupling parts (36a, 36b) of the emergency disconnect coupling (36) from each other.

9. A riser extending between a floating structure and a subsea installation, the riser (1) comprising:

a stress joint (10) at a lower end of the riser joint, and

a safety joint (30) located above the stress joint (10) at the lower end of the riser, wherein the safety joint comprises:

a first riser coupling at an upper end of the safety joint for connection to a corresponding riser coupling of a riser joint,

a second riser coupling at a lower end of the safety joint for connection to a corresponding riser coupling of a riser joint or the stress joint,

an emergency disconnect package having an emergency disconnect coupling releasable by an actuator and arranged between the upper end and the lower end of the safety joint at a location having a minimal bending moment, and

a weak link configured to automatically break when subjected to a tensile force exceeding a predetermined limit, the weak link arranged in series with the emergency disconnect package between the upper end and the lower end of the safety joint.

10. The riser of claim 9, wherein one or more riser joints (14) are provided between the stress joint (10) and the safety joint (30).

11. The riser according to claim 9, wherein the safety joint (30) is connected directly to the stress joint (10).

12. The riser of claim 9, wherein the riser is a completion and work over riser, and wherein the actuator is a hydraulic actuator.

13. The riser of claim 9, wherein the safety joint is sized and arranged to fit within a cylindrical space having a diameter of 49 1/2 inch (1257.3 mm) to thereby provide for deployment through a drill floor opening of a floating structure.

14. The riser of claim 9, wherein the safety joint is sized and arranged to fit within a cylindrical space having a diameter of 60 1/2 inch (1536.7 mm) to thereby provide for deployment through a drill floor opening of a floating structure.

15. The riser of claim 9, wherein the safety joint further comprises a weak link, and wherein the weak link is arranged in series with the emergency disconnect package between the upper end and the lower end of the safety joint.

16. The riser of claim 9, wherein the location having a minimal bending moment is a location in the riser above the stress joint where the safety joint will be subjected to minimum bending loads.

17. The riser of claim 9, wherein the actuator is a remote-controlled actuator, and wherein the emergency disconnect coupling has two coupling parts that are releasable from each other by means of the remote-controlled actuator.

18. The safety joint of claim 1, wherein the safety joint is sized and arranged to fit within a cylindrical space having a diameter of 49 1/2

inch (1257.3 mm) to thereby provide for deployment through a drill floor opening of a floating structure.

19. The safety joint of claim 1, wherein the safety joint is sized and arranged to fit within a cylindrical space having a diameter of 60 1/2 inch (1536.7 mm) to thereby provide for deployment through a drill floor opening of a floating structure.

20. The safety joint of claim 1, wherein the actuator is a remote-controlled actuator.