**Proposed Regulation concerning amendments to the Regulations on the construction of mobile offshore units**

Laid down by the Norwegian Maritime Authority on dd Month 2018 under the Act of 16 February 2007 No. 9 on ship safety and security (Ship Safety and Security Act) sections 7, 8, 9, 11, 14, 21, 28a and 45, cf. Formal Delegation of 16 February 2007 No. 171, Formal Delegation of 31 May 2007 No. 590 and Formal Delegation of 19 August 2013 No. 1002.

**I**

Regulations of 4 September 1987 No. 856 on the construction of mobile offshore units are amended as follows:

Section 1 item 4 shall read:

4. *Functional loads: Constant static loads (weight of structure and fixed equipment), movable static loads (weight of equipment, etc.), variable static loads (weight of supplies, ballast, etc.), dynamic loads (loads from cranes, etc.).*

Section 1 item 5 should read:

5. *Environmental loads:* Waves, wind, current, tide, marine fouling, ambient temperature, *ice and snow loads*.

Section 1 item 6 shall read:

6. Mean water level: *The average water level observed at a site over 19-year period, estimated by finding the average of water level observations made at fixed time intervals over the period. The current mean water level is calculated over the period 1996–2014*.

Section 6 item 1.1 should read:

1.1. The unit shall be constructed in such a manner as to be strong enough to withstand the weather and wind conditions which may be anticipated in the areas in which the unit shall operate. The unit shall be of sufficient strength to withstand the *least favourable* combination of maximum environmental and functional loads.

Section 6 item 2.2.1 should read:

2.2.1. The calculations shall be carried out for the relevant loading conditions with the least favourable combination of the maximum *environmental* and *functional loads*. *For jack-up units, calculations shall also be performed for limit states where environmental loads with an annual exceedance probability shall be combined in accordance with the table below, but with a safety factor of 1.0:*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Limit states*  | *Wind* | *Waves (a)* | *Current (b)* | *Sea level (c)* |
|  | *1* | *10-4* | *10-2* | *10-1* | *MWL + S10-4* |
|  | *2* | *10-2* | *10-4* | *10-1* | *MWL + S10-4* |
| 1. *If the contour line approach is used, the worst combination of significant wave height and peak period (Hs/Tp) for the given probability shall be used.*
2. *For current, a 1-hour mean shall be used.*
3. *MWL = mean water level; MWL + S = mean water level, including the effect of storm surge with given probability.*
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Section 6 item 2.2.4 should read:

2.2.4. *Jack-up units shall have* a safety factor of 1.5 against capsizing (ratio between stabilising and overturning moment). When calculating the overturning moment, the *least favourable* combination of environmental loads*, as set out in item 1.2,* and functional loads shall be taken into account. *Additionally, jack-up units shall have a safety factor of 1.0 against capsizing for limit states as set out in the table of item 2.2.1.* The moments shall be calculated around the maximum stressed edge of the foundation of the legs.

The heading of section 6 b should read:

Section 6 b *Machinery and battery systems*

Section 6 b item 2 should read:

*2. Battery systems for propulsion or with a capacity exceeding 20 kWh shall be designed, constructed, tested, installed and certified in accordance with DNVGL-RU-SHIP Part 6 Chapter 2 Section 1 “Battery power”. Alternatively, rules from another MOU classification society that maintain an equivalent level of safety may be used.*

Section 6 b item 3 should read:

*3. Regardless of the requirement of item 2, bulkheads and decks of spaces containing such battery systems shall be insulated to class A-60.*

Current section 6 b item 2 becomes new item 4.

Section 10 item 1.1.2 should read:

1.1.2. *The unit shall have positive air gap in the operating condition.* *Column run-up reaching above the underside of the deck box is not regarded as negative air gap. The unit shall be dimensioned to withstand the effect of run-up.* *Work areas, access areas, escape routes and safety critical equipment shall not be exposed to run-up.* If the unit is intended to pump overboard ballast in heavy weather in order to increase the distance between the underside of the deck box and the water level, a procedure on when and how such operation shall be carried out shall be included in the operation manual. *The criteria for when the unit shall increase the distance between the underside of the deck box and the water level shall be prepared in accordance with the calculation method in DNVGL-OTG-13 “Prediction of air gap for column-stabilised units” or in accordance with guidelines with an equivalent level of safety.*

Section 10 item 1.1.3 should read:

1.1.3. By means of model tests or by calculations it shall be *documented that the unit in the survival condition is safe in all wave heights and wave combinations for which the unit is structurally designed*. *In the case of negative clearance between the underside of the deck box and the wave crests, the unit, including superstructure and deckhouse, shall be dimensioned for wave impact loads. Green sea on deck shall not be possible. Model tests and calculations shall be carried out in accordance with DNVGL-OTG-13 “Prediction of air gap for column-stabilised units” for air gap analyses, DNVGL-OTG-14 “Horizontal wave impact loads for column-stabilised units” for horizontal wave impact loads, and Section 8 “Air gap and wave slamming” of DNVGL RP-C205 “Environmental conditions and environmental loads” for vertical wave impact loads. Alternative guidelines with an equivalent level of safety may be used.*

Section 10 item 1.2 should read:

1.2 Jack-up units.

In the elevated condition, the distance between the *underside of the hull* and the maximum wave crest shall be positive for the highest wave crest with an annual probability of 10-4. The calculation of the maximum design wave crest shall be based on *the sea level from limit state 2 in the table of section 6 item* *2.2.1.*

Section 13 item 2.1 should read:

2.1 One or more white lights shall be placed so as to ensure that at least *one* light is visible from any direction. Lights shall be *placed* not more than 30 metres and not less than *6* metres above water level. *If the unit is so arranged that the lights cannot be placed 30 metres or less above water level, the lights may be placed higher, but as close to 30 metres as possible.* The lights shall be visible for at least 15 nautical miles on a dark night with good visibility. A back-up system with a nominal visibility of at least 10 nautical miles shall be arranged. The lights shall give a signal in the shape of the Morse letter U every 15 seconds. The lenses of the lights shall be so constructed as to ensure that the light, in addition to being visible for the above-mentioned distance, is visible from anywhere in the vicinity of the unit.

**II**

The Regulation enters into force on 1 January 2019.