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Affected Publication: API Recommended Practice 2SK, Design and Analysis of Stationkeeping Systems for Floating Offshore Structures,
Fourth Edition, February 2024

Addendum 1 – Ballot xxxx

7.1: Shall update with the highlighted text:

For mooring line components, acceptable tension limits are defined with respect to the component's end-of-life break strength (ELBS). Mooring analyses may be performed in the frequency or time domain. The calculation of line tensions due to wave-frequency vessel motions shall include the dynamic effects of the line's velocity (drag forces) and acceleration (inertial forces); in Table 6, this is referred to as dynamic analysis. The ELBS shall allow for the reduction in strength by reducing the diameter to account for corrosion, abrasion, and interlink wear. For mobile moorings that satisfy the requirements of API 2I, the ELBS may be taken as equal to the CBS corrected for complex loading conditions (e.g. bending-tension combination).

A.7.1.2.4: Shall update with the highlighted text

Driven piles can be designed to develop high-lateral and -vertical resistance and to be very stable over time; see ISO 19901-4 for design and installation considerations for driven pile anchors. Pile anchors are generally installed using driving hammers, although other methods such as jetting or drilling and grouting techniques have been used. Installation of jetted or drilled and grouted piles can be handled by a conventional drilling rig without major modifications. However, disturbance of soil during jetting and drilling operations should be evaluated.

Suction Pile Anchor

Suction piles can be used for large deepwater mooring systems and can be designed for very high mooring line loads. They are typically tall steel cylindrical structures in cohesive soils (or shorter girthier cylinders for sands) generally with internal stiffener systems. The cylinder unit is open at the bottom and normally closed at the top. A suction pile is installed by first lowering it into the soil to self-penetration depth (i.e. penetration due to submerged pile weight). The remainder of the required penetration is then achieved by pumping the trapped water from the inside of the suction pile, as shown in Figure A.17 (see Reference [34]). The pressure differential created will result in an additional driving force on the anchor top, which will further drive the pile into the soil. As the penetration increases, the penetrating force needed normally increases, requiring a gradually increasing differential pressure. Due to the

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pressure differential, the suction pile will behave structurally like an externally pressurized vessel; internal stiffening is generally required to avoid buckling. For general guidance on suction pile design and installation, see API 2SK, Third Edition—Appendix E.

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