

Abstract

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Computerized Stability Assessment of Offshore Pipelines

An offshore pipeline has to be stable on the seabed, if it is too light, it will slide away under the forces due to waves and current. On the other hand, it should not be too heavy, otherwise it will be difficult to construct and unnecessarily expensive. There are two methods for determining the stability for untrenched submarine pipelines resting on the sea bed. The first method, is the DNV recommended practice (RP E305) presented in non-dimensional curves. The second method was developed by the American Gas Association and the Pipeline Research Council International, this method was presented in AGA/PRCI pipeline stability computer program. However, this method is too expensive. This paper presents a new user friendly computer program "CSOP" to examine the stability of the pipe lines on the seabed. The paper also makes a comparison of weight coating calculations using the three design methods, the DNV recommended practice and the AGA/PRCI pipeline stability program and "CSOP" program. A case study has been performed and the results showed good agreement between the proposed method and the other two methods.