



ABS SELF-ELEVATING UNIT CONVERSIONS

Mobile Offshore Production Units (MOPUs) converted from existing self-elevating units (SEUs) are often considered for shallow water production fields. They offer opportunities for fast track development in comparison to new construction of fixed jackets, and are typically able to be deployed on site without specialized offshore installation vessels.

ABS GUIDE FOR CONVERSION OF SELF-ELEVATING UNITS TO OFFSHORE INSTALLATIONS

This Guide, in conjunction with the ABS *Rules for Building and Classing Offshore Installations (OI Rules)* and the ABS *Rules for Building and Classing Mobile Offshore Units (MOUs)*, provides guidance on the classification requirements for converting SEUs to offshore installations.

These publications address the required assessments for the structure and foundations of the installation. The below can be included within ABS' scope of classification upon request:

- Jacking System
- Marine and Safety System
- Top Side System

The ability to elevate the unit on its production site and hold the unit in the elevated position will be evaluated regardless of whether the jacking system is part of classification, as explained in the Guidance Notes.

APPLICATION OF STATUTORY REGULATIONS

The owner has the option to request ABS for statutory services on behalf of the flag administration and coastal state authority. The degree of a MOPU's compliance with statutory regulations of the applicable flag State or coastal state may differ from project to project. ABS may only need to issue a single trip load line certificate if the unit is wet towed to the installation location, or there may be additional statutory requirements to address. ABS provides assistance in defining the necessary certifications for a given operating location.

DESIGN REVIEW

General design requirements of an SEU converted to an MOPU are described in the Guide. These requirements cover design considerations, foundation design and structural analysis specific to the production site. Typical items for an SEU such as the hull, spud can or mat structure and the holding capacity of the jacking system are reviewed in accordance with the MOU Rules as they are not covered by the Offshore Installation Rules.



FATIGUE ASSESSMENT

A spectral fatigue analysis technique is recommended to calculate the remaining fatigue life of an MOPU taking into consideration the existing fatigue damage due to unit's past service. Emphasis is to be given to weld joints and structural members that are in way of the splash zone, structural members that would be difficult to access to inspect and repair after the MOPU is installed; and structural members susceptible to corrosion-accelerated fatigue. ABS requirements are further described in the *ABS Guide for Fatigue Assessment of Offshore Structures*.

FOUNDATION DESIGN

The soil investigations, design considerations for the supporting soil and the influence of the soil on the MOPU's foundation structure are covered in the Offshore Installation Rules. The classification of the MOPU is dependent on evaluating the installation for the site-specific soil conditions.

SURVEYS DURING CONVERSION

Conversion surveys are carried out by an ABS surveyor attending the conversion shipyard in accordance with the Offshore Installation Rules and the MOU Rules. During conversion, the SEU is placed in a drydock and the following surveys are expected to be completed as per Appendix 7-2-A3/5 of the MOU Rules:

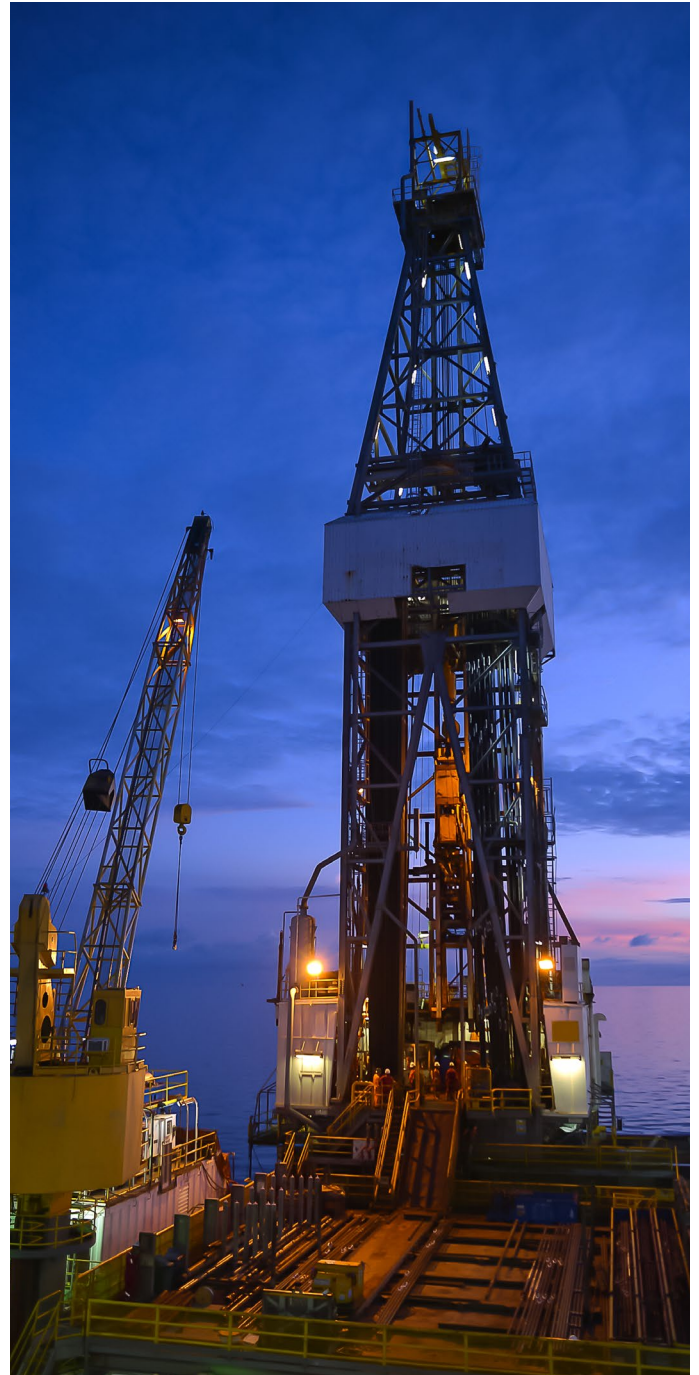
- Hull
- Jacking System, if applicable (defined by 7-2-A3/5.3 of the MOU Rules and 1-1-2/75 of the OI Rules)
- Marine and Safety Systems, if applicable
- Topside Systems, if applicable

INSTALLATION SURVEY AND COMMISSIONING

The installation survey is carried out offshore by an ABS surveyor, in accordance with 5-1-2/21 of the Offshore Installation Rules. If the jacking system and/or marine and safety systems are to be classed, they are commissioned and tested in accordance with the MOU Rules. Classed topside systems are similarly commissioned and tested in accordance with the *ABS Rules for Facilities on Offshore Installations*.

SURVEY AFTER CONSTRUCTION

Annual and other periodic surveys need to be performed by an ABS surveyor to maintain the classification of the MOPU as an Offshore Installation. The foundation of the in-service survey planning are agreed during the conversion.



For additional information on **Conversion Projects**, please contact us at GlobalOffshore@eagle.org.



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