

STATEMENT OF FEASIBILITY

No. 2021-0011

This is to state that

Heerema Silent Foundation Concept – Helical Pile

as detailed in /1,2/ has been evaluated in accordance with DNV-RP-A203 Technology Qualification /3/ for its designated use and DNV GL considers the technology feasible as defined in /3/ and thereby suited for further development and qualification.

Owner: **Heerema Marine Contractors SE**

Name: Silent foundation concept –
Helical pile

Description: Helical piles are not a new concept onshore. This concept replaces a traditional single open tubular pile offshore with one or more helical piles. The new technology is the large pile size and the use of a very big rig that will make it possible to screw the pile down, plus the option to use a pile with different diameters along its length.



The technology, main principles, basic functions and composition is further detailed in /1/.

Use: For offshore jacket piles with reference to /1/ for details.

Main uncertainties: DNV GL has reviewed the Qualification Basis. The main uncertainty is related to other soil types than it has been tested for as detailed in /2/. Heerema is updating results for other soil profiles.

Involvement: DNV GL has been involved in the qualification process as required according to /3/ and has facilitated and documented the technology qualification process.

Qualification and verification: Technology qualification can continue with a threat assessment to identify causes and mechanisms of failure to be considered. Following a successful qualification, the design can be verified with reference to acceptance criteria arising from the technology.

Reference documents: /1/ "Qualification basis – Silent Foundation Concepts", received 2020-05-06
/2/ "Technology assessment Silent Foundation Concept: Helical Pile", DNVGL-2021-0011/Rev.0
/3/ DNV-RP-A203, Technology Qualification, July 2017

The qualification process is in progress and new sources of uncertainty might be discovered as qualification progresses. Attention is drawn to the iterative nature of the technology qualification process /3/.

Høvik 2021-01-08
for DNV GL-AS

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