

Bubbles JIP

Publieke samenvatting / Public summary

Aanleiding

During installation of monopiles and jackets at sea, the noise generated by high-energy piling may harm the marine environment. To mitigate the risk for marine life, governments have adopted noise limits for pile-driving operations in their permits for offshore construction projects. One of the methods to reduce the sound levels is the use of air bubble curtains. These bubble curtains are generated by using a looped hose on the seabed, pressurized by air compressors on a support vessel, enclosing the pile driving location. In current practice, these bubble curtains are designed on the basis of previous experience. A better understanding of the science behind the noise generation and mitigation would enable better engineering of the bubble curtains, leading to reduced costs, reduced project risk and reduced sound levels for the local environment. The current practice of bubble curtains is available at a limited number of companies that offer this service. The cost of the (subcontracting of) bubble curtains is a considerable amount of the total cost of the installation of an offshore wind farm (up to 15%).

Doelstelling

The objective of the project is to achieve more efficient and effective use of bubble curtains for noise mitigation in offshore installation projects by improved engineering of the bubble screen. In that way the noise levels can be better controlled and the risk not to comply with the specific noise requirements per piling project is reduced in a cost-effective manner.

Projectinformatie / Project information

Projectnummer / Project number

TEHE119024

Subsidiebedrag / Grant amount

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Algemene informatie / General information

Penvoerder / Secretariat

Stichting Maritiem Research Instituut
Nederland

Publicaties en materialen / Publications and attachments

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Eindrapport TEHE119024

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Korte omschrijving

Literature review, numerical modelling, laboratory tests and full-scale measurements are all part of the scope of work. The scope of work consists of 8 work packages (WPs), and is expected to run for two years. The following partners are involved in the project: MARIN, Boskalis, IHC, Heerema Marine Contractors - HMC, Seaway Heavy Lifting, TNO, TU Delft, Van Oord, Wageningen Marine Research

Resultaat

The project will result in validated design methods and increased understanding of the processes involved. The results will be used by participants to improve quality, planning and cost control of bubble curtains for noise mitigation during pile driving. The findings of the Bubbles JIP will be summarized in a “Best Practice” reference document.

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.

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