Request for Proposal RFP_2019_0239: Novel Methods to Install Deep Water Subsea Production Systems

RFP Title
Novel Methods to Install Deep Water Subsea Production Systems

Due Date
17/01/2020

Opportunity
Supplier agreement, technology acquisition, joint development, consulting

Timeline
Phase 1 – Method evaluation (6-12 months)
Phase 2 – Commercial use (2021 onward)

Financials
Funding for developing promising approaches is available, such financials are to be negotiated and will depend on the maturity of the proposed technology.

RFP Description
NineSigma, representing an international Oil and Gas company, is looking for new approaches to install large, deep water subsea systems (tree, manifolds, risers, flowlines, etc.). Currently the use of expensive specialized installation vessels is the major installation method. With the expectation that future installations will be at increasingly greater depth, we are looking for cost effective alternatives to installation vessels.

Background
The exploration and production of oil and gas reservoirs in a variety of water depths is a challenge, especially because these subsea developments are moving further offshore and into deeper waters. Next to the technical challenges of such projects, the costs involved are also continuously increasing. Subsea production systems have several components like christmas trees, manifolds, jumpers, riser systems, and subsea flowlines. The deployment of these systems requires specialized and expensive equipment. Conventional drilling rigs and specialized crane barges are used to lower structures to the seabed. The costs of using an installation vessel may be US$750,000 per day or greater. At sea the weather conditions can change rapidly and operations regularly have to be stopped, although the daily vessel costs continue to add up.

NineSigma's client expects to potentially install at least 1 new subsea production system per year for the next decade and is therefore interested to identify cost effective approaches to current methods.

Key Success Criteria
The successful technology will have the following specifications:
- Ability to install heavy structures at the seabed
- Weights from 50 to 60 tons for christmas trees and 250 to 300 tons for manifolds
- At depths up to 3,000 m, preferably up to 4,000 m
- Ability to continue operating safely in bad weather conditions would be a bonus as this may decrease the installation duration; this may include operation in up to and beyond a significant wave height of 3 meters, a wind speed of 20 knots, or a current speed of 3 knots.
- Pose no additional risk to the personnel operating the method, the assets, or the environment

Notes:
- NineSigma's client is not in a position to provide manufacturing or integration facilities. All needed work to produce a new installation method is to be provided by the participant or third parties
- Exclusivity is not a requirement and suitable new solutions can be offered to other customers

Creation Time: 30/01/2020 03:10
Proposals from academic researchers will be evaluated if the path towards practical use is clear.

**Area of Interest**
- Engineering-Industrial > Systems Engineering
- Engineering-Industrial > Industrial Engineering-General
- Engineering-Civil > Coastal Engineering
- Engineering-Civil > Construction Engineering
- Engineering-Civil > Structural Engineering
- Engineering-Civil > Transportation Engineering
- Engineering-Civil > Civil Engineering-General
- Engineering-Systems > Systems Engineering-General
- Engineering-Systems > Engineering Systems-General
- Engineering Science and Materials > Engineering Mechanics
- Engineering Science and Materials > Engineering Science and Materials-General
- Engineering-Mechanical > Applied Mechanics
- Engineering-Mechanical > Mechanical Design
- Engineering-Mechanical > Ocean Engineering
- Engineering-Mechanical > Robotics
- Engineering-Mechanical > Structural Analysis
- Engineering-Mechanical > Mechanical Engineering-General
- Construction > Specialized construction activities > Other construction installation

**Possible Approaches**
Possible approaches might include, but are not limited to:
- Remotely operated submersible equipment
- Buoyancy based solutions
- Novel types of barges
- Solutions coming from the defense industry
- Novel methods being developed within the oil and gas industry

**Approaches not of Interest**
- Solutions that cannot ensure safety or control of offshore installation operation
- Research proposals that might deliver against the requirements at some indefinable future point

**Preferred Collaboration Types**
- Joint Development
- Technology Acquisition
- Technology Licensing
- To Be Negotiated

**Items to be Submitted**
Your response should not contain any confidential information and address the following:
- Non-Confidential description of proposed method or equipment
- Operating principle
- Supporting data or technical rationale for conceptual approaches
- Technology maturity (concept, prototype, suitable for practical use)
- Estimated development requirements (e.g. for prototype development, field trials, etc.), including timing and estimated budget
- Intellectual property status
- Preferred business relationship
- Short overview of team behind the proposal and expertise in this or related fields

The client will review submitted proposals and possibly ask clarifying questions before selecting the most suitable candidates for evaluation. During the selection process, the client may execute non-disclosure agreements (NDA) with selected respondent(s), seek further information disclosure, and discuss specific targets. Client will evaluate all responses and choose those of greatest interest for direct discussions that could lead to contractual engagement or other commercial arrangements with selected respondent.

**Award Amount**