Borssele V Slip Joint connection
12 June 2019
Borssele V - Slip Joint connection

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Innovation site

22 km from coast of Zeeland

Site V is 0.59 km²

The concession for Kavel V is awarded to Two Towers B.V.

Van Oord Offshore Wind B.V. is the BOP contractor

Planned innovations:

1. Slip Joint
2. ICCP optimisation
3. TSA coating
4. Oval cable entry hole
5. Eco-friendly scour
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Location of innovations

- M01/B501
  - Slip joint
  - Oval cable hole
  - Eco-friendly scour

- M02/B502
  - ICCP optimisation
  - TSA coating
  - Oval cable hole
  - Eco-friendly scour

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**Slip Joint design in Borssele V**

Used as an TP-MP connection

Slip Joint parameters:

- 1 degree angle
- 1.5*D overlap
- MP: plates outside flush
- TP: plates inside flush
- Below LAT (top at – 5 [m])
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Certification of Slip Joint by DNVGL

- Based on results of SJOR project:
  - TNO friction tests
  - TNO fretting fatigue tests
  - SJOR measurement programme
- Validation of calculation model
  - Simple concept, complex calculations
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Manufacturing of Slip Joint by SIF

- Planned – end 2019 until spring 2020
- Working closely with SIF, partner in SJOR project
- Realistic manufacturing tolerances
- Balance between tight tolerances and steel weight

Photo courtesy of SIF
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Installation of Slip Joint by Van Oord

- Planned – spring 2020
- Installation to be done with Aeolus
- Slip Joint to be installed below LAT
- Installation challenges versus Slip Joint location
Borssele V Slip Joint connection Questions?