# Pipeline Research Council International

**LEADING** PIPELINE RESEARCH

THE WORLD STANDARD FOR SUBSEA PIPELINE DESIGN AND ANALYSIS

# ON-BOTTOM STABILITY SOFTWARE

version 4

**SIMPLIFIED ANALYSIS. COMPREHENSIVE DESIGN. COMPLEX MODELING.**

On-Bottom Stability Software (OBS) features include:

- Calculation of kinematics from 3-D irregular waves
- Hydrodynamic force models
- Models for partial burial
- Non-linear, time dependent interaction between pipeline and soil
- Non-linear pipeline material properties (for boundary elements)

These features allow for detailed analysis of specific pipeline sections subjected to specified environmental conditions. Additionally, the new release consists of three levels with Level 1 being used for quick simplified analysis, Level 2 for comprehensive detailed design and modeling and Level 3 for advanced and very complex subsea pipeline design modeling.

# PRCI OBS Software Tool

The new release of the PRCI OBS Software Tool is the first public issue of the upgraded application since the original 3.0 version. Upgrades include modernization, bug-fixes and the addition of new functionality to the software.

The new interface was designed to maintain the overall layout and workflow of the previous version so existing users can quickly and easily become familiarized with the new features, which include:

- Database structural enhancements for storing and accessing project models
- Increated flexibility with an increase in user defined parameters
- Plotting features added
- Addition of the absolute lateral static stability code check module following DNV-RP-F109 (2011)

## LEVEL ONE - SIMPLIFIED ANALYSIS

The addition of the logarithmic boundary layer formulation.

The addition of the marine growth specification option.

**Absolute Stability Method:**

This new module was added based on feedback from users. The module conducts absolute stability check following methodology presented in the DNV-RP-F109 version 2011.

## LEVEL TWO - COMPREHENSIVE DESIGN

The addition of the JONSWAP spectrum.

The addition of the Verley and Lund for clay soils.

The addition of the Verley and Sotberg for sand soils.

The addition of parametric-run functionality for pipe wall thickness and water depth.

Resolving a reported bug (i.e. excessive embedment prediction in current dominated conditions).

## LEVEL THREE - COMPLEX MODELING

The addition of running multiple wave seeds per run.

The addition of plotting and reporting per wave seed for multiple seed runs.

To purchase, upgrade existing software, or for licensing information, contact Technical Toolboxes, an authorized PRCI re-seller.

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