TECHNICAL TOOLBOXES

On-Bottom Stability Software

THE WORLD STANDARD FOR SUBSEA PIPELINE DESIGN AND STABILITY ANALYSIS

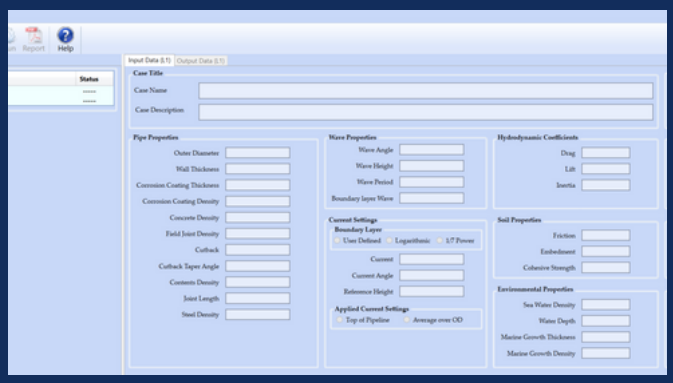
The Technical Toolboxes PRCI On-Bottom Stability (OBS) Software provides fast, efficient, and consistent modeling for detailed analysis of specific pipeline sections subjected to specified environmental conditions. This software has been developed through the collaboration of PRCI participants that consists of engineering companies and major industry energy producers. The OBS Software consists of three levels with each level serving a different purpose from simplified design to intensive design modeling. Level 1 is used for quick simplified analysis, Level 2 is used for comprehensive detailed design and modeling, and Level 3 is used for advanced and complex subsea pipeline design modeling.

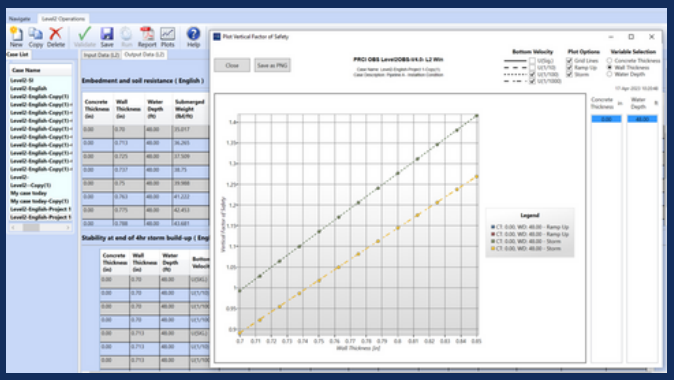
WHY USE THE OBS SOFTWARE

- Trusted for subsea pipeline design for over 40 years
- Calculate kinematics from 3-D irregular waves
- Reduce the risk of high CapEx and OpEx overspend to correct design flaws and defects
- Address the hydrodynamic complexity of shallow water
- Provide realistic weight coating thickness stabilization solution
- User friendly interface to reduce learning curve and enable quicker proficiency with Software
- Future improvements extending to cables stability and mitigations
- Deployment in the Pipeline HUB cloud **Coming Soon**
- Batch Run capability in Pipeline HUB **Coming Soon**

OBS APPLICATIONS

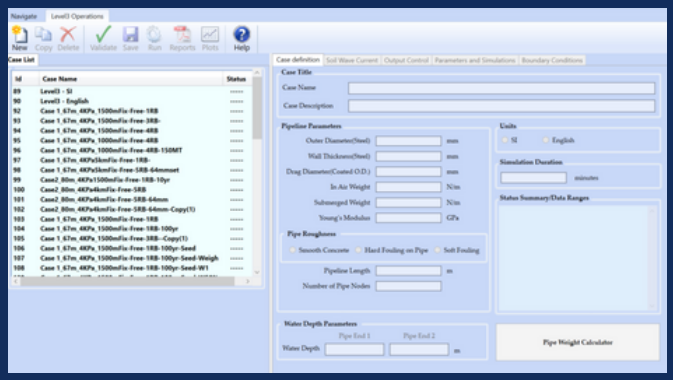
Level 1 – Fast and simplified calculations for static stability of un-trenched pipes with options for logarithmic boundary layer formation and marine growth specification. It models displacement under the load caused by waves and current and includes other considerations such as cohesive and non-cohesive soils.





Level 2 – Comprehensive on-bottom pipeline design with calculations for clay and sand soils. It includes parametric-run functionality for pipe wall thickness and water depth. The latest release resolves a bug that produced an excessive prediction of embedment when water currents are the dominant force.

Level 3 - Complex modeling with finite element analysis. It consists of a user interface at the top level for data input, program control, and output to view and plot results. The random wave generation module computes the environmental forces and surface waves. It produces a velocity-time series for each point that it passes to the hydrodynamic forces module.



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www.technicaltoolboxes.com