



PEMS FEATURES

- **Laser tracking**
continuously monitors pipe exit angle
- **Easily-interpreted bull's-eye view** makes even small deviations of the pipe from center clear to operators
- **Warning zones** may be configured at fixed distances from the center, or be dynamically driven by real-time tension measurements
- **May be configured to use a fixed pipe diameter**, or to dynamically calculate pipe diameter from the laser data
- **All tracking data is time-tagged and saved at a 1-second interval**
- **A visual query tool** allows data from any time period to be retrieved and exported as a CSV file.
- **Meets essential requirements of DNV-OS-F101** for pipe exit monitoring and logging

PEMS

PIPELAY EXIT MONITORING SYSTEM

4D Nav's PEMS (Pipelay Exit Monitoring System) provides offshore pipe lay operators with an exceptional tool for visualizing and logging the position of the pipe relative to an ideal exit.

Based on the NavView suite of positioning and navigation software, PEMS is an optional feature of NavView that incorporates a laser scanner to continuously monitor and record changes to the pipe center position as it exits the lay vessel tensioner or HOM (Hang off module).

Installation requirements are easily met on most vessels. The laser requires only 24VDC and a single CAT5-7 data cable to make it operational. The processing computer is fitted to the back of the display monitor, making the whole package compact enough to fit into the tiniest of spaces. Tension output from most SCADA systems is easily interfaced, if desired.

PEMS utilizes a processing algorithm that reads the raw laser data into a shape detection algorithm computing the center and radius of the pipe. The resulting output is routed to the display and data logging modules. The operator is presented with a simple bull's-eye view of the pipe deviation from center, allowing informed payout or vessel speed decisions to be made.

A two-minute calibration procedure executed at the beginning of operations establishes a reference center. From that point, millimeter pipe deviations from the reference can be measured.



4D NAV

1680 W. Sam Houston Parkway North
Houston, TX, 77043 USA

+1 832 516 6888

4dnav.com