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Fishing Vessel *Vela*, BCK 368 (Not chartered by FRS)

REPORT

1-10 July 2004

Personnel

R S T Ferro
C D Hall

Ports

Loading: Peterhead
Unloading: Peterhead

Project: MF06s

Objectives

The trials objectives are:

a) to assess whether large diameter (45inch) bundled pipelines can be overtrawled safely, by measuring the engineering performance of single and twin trawl gears during passes over the pipeline.

b) to correlate the full-scale measurements with previously obtained model data.

FRS staff objectives are to advise on the operation of the trawl gear and on the collection and recording of the data.

Narrative

Gear and instrumentation were set up during 29/30 June. Staff, together with a representative of Trevor Jee Associates (contracted by the sponsors to manage the trials), joined the vessel in Peterhead on the morning of 1 July. After further preparatory work, *Vela* sailed in the early morning of 2 July and made two test hauls 10 nm east of Peterhead before returning to harbour to obtain technical assistance with malfunctioning instrumentation. *Vela* then sailed for the Beryl Field at 2100 on 2 July arriving at 1500 on 3 July.

A maximum of 18 runs over the pipelines was specified by the oil company partnership which was sponsoring the work. The scheduled runs were completed by the evening of 5 July. *Vela* then returned to Peterhead, docking at 1500 on 6 July. Staff returned to Aberdeen by 1830.

Results

Two sites had been chosen for overtrawling a 45 inch bundled pipeline SSE of the Beryl A platform. The first comprised a single 45 inch bundled pipeline (single bundle) and the second comprised two similar parallel pipelines separated by 50 to 100 m (double bundle).

A single trawl and a twin trawl, typically used by vessels of 800 hp were towed over both the single and double bundles. Angles of approach of 90° and 45° were used over the double bundle and 30° and 22° over the single bundle. Each run was repeated except in the case of the 90° runs which were done at three different speeds to assess the effect of speed on impact.

Comprehensive measurements were made of headline height, wing-end spread, net speed through the water, door spread, warp tension ahead of the doors, accelerations of the doors and warp tensions at the winches. Navigation data were also recorded and the true positions of one of the doors obtained. Instrumentation was interfaced with the navigation plotter to show positions of the vessel and one door in real time to facilitate control of the approach angle of the gear to the pipeline.

FRS staff played a full part in setting up, operating and maintaining the instrumentation and downloading data. Advice was given on interpretation of gear behaviour during the overtrawling process and video and photographic records were compiled, on board ship, of the trawling activities and visible marks of impact between pipeline and fishing gear.

The trials will enhance understanding of the mechanisms of interaction between fishing gear and large diameter oil pipelines.

R S T Ferro
16 August 2004