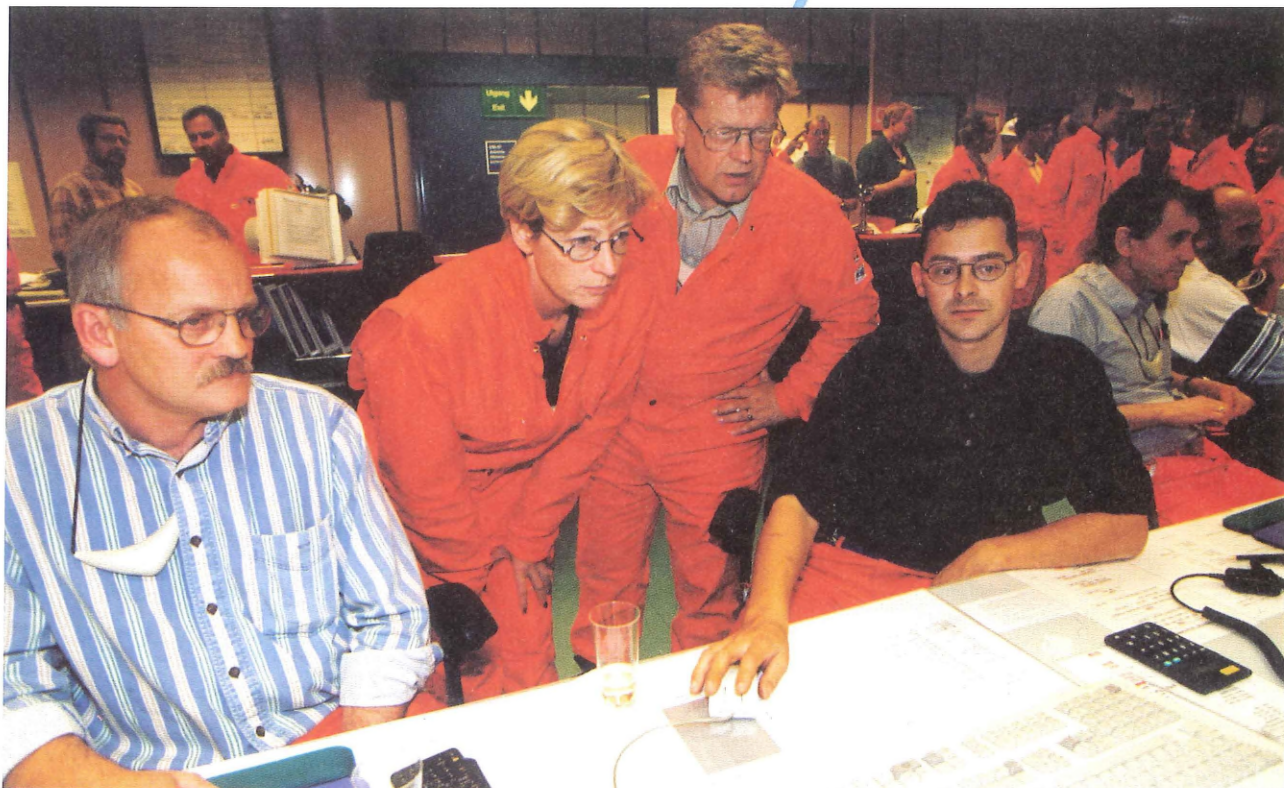


# Ekofisk II

## newsletter

September 1998



Norway's minister for petroleum and energy, Marit Arnstad, in the Ekofisk 2/4 J control room. From left Dagfinn Ellingsen, Marit Arnstad, Lars Takla and Arve Jørgensen.

## Ekofisk II in operation

A dignified group was there to witness minister for petroleum and energy, Marit Arnstad, officially open Ekofisk II on 15 September. She unveiled a commemoration stone to mark the coming-on-stream of Ekofisk II, in the presence of representatives from companies in the Phillips Norway Group, Phillips management, members of the press, and some of the employees at work on Ekofisk. The minister was positive in her commendation of Phillips, giving praise for the good job done to build Ekofisk II on schedule and below budget. Marit Arnstad also welcomed the opportunity to make a guided tour of the platforms at the new Complex.

The completion of Ekofisk II has won unanimous praise from all quarters. During a time when most development

projects in the offshore industry suffer cost overruns and schedule delays it turns heads when one comes in so beautifully on time and budget. Project manager David J Smith, the man who has headed up the Ekofisk II project, is in now doubt that one of the key reasons for the project's success has been the supreme effort made by all involved. - This effort was our guarantee for success in the Ekofisk II project. I have never before been a part of a project where such enthusiasm, energy, ownership and personal sacrifice were made to achieve our goal! says David J Smith.

During the final days of commissioning of the Ekofisk 2/4 J platform prior to changeover operations there was little time to test the systems under all conditions. As a

result some glitches and shut downs have occurred during the first weeks of operation. Particularly the water separation in the low-pressure separator has posed problems - as well as hyper-sensitive gas detectors. Our work to adjust this complex facility is proceeding, and production is getting steadily better. Time to run in a plant is entirely normal, but of course not much welcome. In fact production start-up on Eldfisk and Tor have been delayed.

Now that Ekofisk II is on stream and hookup and commissioning on 2/4 J is complete, our hotel platform "Safe Britannia" is preparing to leave Ekofisk. Also the "Mærsk Gallant" jack-up will leave the Complex once she completes her eleventh well.







The pipe-cutter undergoing tests before getting to grips with the 24 inch Eldfisk crude line. Derek Usher on "Semi 2".

# Successful changeover

There were many people working towards a common goal when the time came to change over the pipelines from Ekofisk I production to Ekofisk II. But they hardly saw each other, working as they were on many different vessels and platforms. Here are some snapshots of what went on during this very fast and professional piece of practical engineering.



"Seaway Pelican" was responsible for changeover of three gas pipelines: to Emden, Gyda and Tor. Work on the 36 inch Emden export line took almost seven days. On the two smaller lines completion came sooner, taking less than five days.



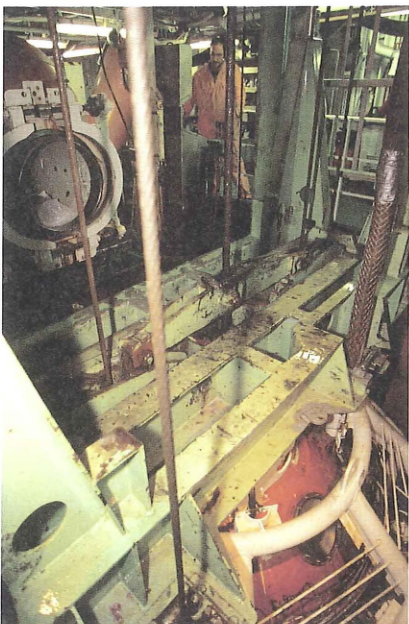
Dive manager Alan Sealy on the "Pelican" showing the size of the Emden pipeline.



Lasse Tveit "feeding" the "Pelican" divers through the pressure hatch.



Welding supervisor Dave Savage of the "Pelican" guiding the welding robot from the control centre on board the vessel. The weld is made in 70 metres of water depth within a special seabed habitat.



Shift handover between diving teams. Three divers come to the surface in the diving bell after a six-hour stint on the bottom. Two of the team work in the habitat while the third sits stand-by in the bell.







*"Rockwater Semi 2" commenced by connecting up the oil pipeline from Valhall to Ekofisk II, a job that took seven days. Then followed the Eldfisk oil line (nearly six days), and the Eldfisk gas line (six days plus).*



*Valves have been quite a problem on Ekofisk 2/4 J. Here, Alain Alric, from the FCT factory in France, talks with Robert Dalsveen, from Phillips, about how to stop a leak.*



*Busy activity in the modern control room on Ekofisk 2/4 J. Svein Liland and Sven Olav Røynestad waiting for a signal that the "pigs" are coming from Valhall.*



*A view of the habitat, seen on the deck of "Semi 2". Kevin O'Sullivan readies the habitat for a new job on the Eldfisk pipeline.*



*"Seawell" was the third of the diving vessels involved in the Ekofisk II changeover. She was responsible for the export crude line to Teesside, which took almost eight days, and the crude line from Ula and Gyda, which took three.*

## Changeover log

### Statpipe/Norpipe

- 31.7 Gas from Statpipe stopped
- 7.8 Statpipe changeover complete
- 7.8 Gas export from Ekofisk stopped
- 15.8 Gas pipeline changeover complete
- 22.8 Valves on H-7 repaired
- 22.8 Maintenance at Emden complete
- 23.8 Valves on B-11 repaired
- 23.8 All clear for gas deliveries from Emden

### Teesside oil pipeline

- 7.8 Ekofisk shut down
- 9.8 Mechanical plug could not be used, bled off pressure
- 16.8 All clear for oil export from Judy and Fulmar
- 17.8 All clear for oil export from Ekofisk

### Start-up Ekofisk 2/4 J

- 3.8 Commissioning runs complete
- 18.8 Oil export started
- 20.8 Gas export started

### Valhall

- 5.8 Valhall shut down
- 18.8 Oil export started
- 19.8 Gas export started

### Ula/Gyda

- 5.8 Gyda shut down
- 6.8 Ula shut down
- 25.8 Gyda gas export started
- 25.8 Ula/Gyda oil pipeline started

### Eldfisk

- 5.8 Eldfisk 2/7 B shut down
- 5.8 Eldfisk 2/7 A and 2/7 FTP shut down
- 15.9 All clear for Eldfisk 2/7 A and 2/7 FTP production
- 15.9 All clear for Eldfisk 2/7 B production

### Tor

- 5.8 Tor shut down
- 30.8 All clear for Tor production

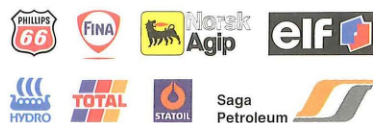
## "Mærsk Gallant" leaves 2/4 X

The jack-up "Mærsk Gallant" is now drilling her last well for Ekofisk 2/4 X. As soon as the eleventh well is completed she will jack herself down and make for Rotterdam under tow. Here she will be upgraded to drill an exploration well on the Ebba prospect in the Ekofisk area. The permanent derrick on Ekofisk 2/4 X is coincidentally drilling its eleventh well. Shortly we will therefore have 22 wells in production on that platform. Another five will be drilled between now and mid-1999, to complete the immediate drilling program. Towards the end of 2000 drilling operations will pick up again, and ultimately 44 wells are planned from Ekofisk 2/4 X, plus a 45th for reinjection of drill cuttings.

Of the 20 wells already completed and in production on Ekofisk 2/4 X, half (10) are horizontal bores. One of them branches into two separate boreholes, which drain separate pockets of the reservoir.







Ray Dionne has watched over the maritime operations on Ekofisk II as chief maritime engineer. Besides his coordination tasks onshore he also lent a hand on board the fleet operations when required. Here he visits "Pelican" as her divers make the new connections for the gas pipeline to Emden.

## Pipeline jobs complete

The final seabed activities for Ekofisk II have now been completed. "Viking Troll" has run tests of the monitoring system that will measure any horizontal movement of the pipelines after production start. Elsewhere, the "Sandpiper" was busy backfilling stone at strategic points on the pipelines. The final fills involved almost 30,000 tonnes carefully placed at the joints where the new Ekofisk II lines are welded to the "old" lines. The project's maritime group can now breathe easy following a hectic final round of operations.

## Project manager's report

We have finally come to the conclusion of this project - and my final status report. Let me say how delighted I am with the efforts that everyone in Phillips and elsewhere in the project has shown. Your work was our guarantee for success in this Ekofisk II project. I have never before been a part of a project where such enthusiasm, energy, ownership and personal sacrifice were made to achieve our goal!

You have heard it before, but I say again: while other companies have failed to achieve their targets, we have completed Ekofisk II on schedule and within budget. It was all possible because of our company culture and our people. Let me thank you all most sincerely - "a thousand thank-you's", as you say in Norway!

### Project progress at end of September 1998



## Ekofisk II video available

A 25 minute long video summarizing the highlights of the Ekofisk II project is now available. The video, in VHS format, is in Norwegian, with English subtitles. The cassette is available to anyone interested for NOK 100 (reproduction costs). Please complete the coupon below to get yours.

### Ekofisk II project video

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