



Gullfaks B (Norway)

As part of this project, **Zeta-pdm Ltd** undertook the design, engineering and supply of the separation internals for the revamp & upgrade of the existing two (2) off existing **Produced Water Separators / Degassing Tanks 44-VA21 A/B** to cover an increase in water throughput.

The main Gullfaks field lies in block 34/10 in the northern part of the Norwegian North Sea and contains three large concrete production platforms (Gulfaks A, B and C); with production starting on B on 29 February 1988.

Oil and gas from Gullfaks B is transferred to the A and C platforms for processing, storage and export.

The recovery factor on Gullfaks is 59 per cent, but the goal is to increase into 62 per cent. Also, in order to minimise the impact on the environment, Statoil looked at ways to reduce the oil emissions in the produced water.

General Information;

Zeta-pdm worked closely with the end-user Statoil providing a detailed Computational Fluid Dynamics (CFD) analysis of the separators to optimise the operational flexibility, minimise the oil carry-under in water, whilst maintaining a short equipment delivery time to allow for the prompt conversion (revamp and upgrade) of the tanks; whilst meeting stringent process, mechanical, HSE and quality specifications.

The design of the new internals was challenging due to the "non-weld requirements and the potential of fouling of the internals.

The scope included;

- CFD Optimisation of the Original and Revamp Separation Internals.
- 1 x ZSQ Inlet Device.
- 2 x ZVB® Calming Baffles.
- 2 x ZSB / ZPC Straightening Baffles.
- 2 x ZPC Ultra-Skimming Zones.
- 1 x Sandwash System.
- New Supports and Support Rings (Non-weld).



Top View of Installed ZSQ Inlet Device



Installation of Sandwash System

Vessel Principal Dimensions;

3,470 mm ID x 9,145 mm T/T with Central Inlet.



Photo: Øyvind Hagen / Statoil

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