

# Mator News

10/2004

Provider of innovative consultancy services in **gas/oil/water separation technology**

## Zero harmful discharge to sea by 2006 - how to obtain substantial improvements at acceptable costs ?

**The figure below shows the targeted year 2006 EIF values for a number of Norwegian oil platforms based on the operator's own reported plans to the SFT.**

The bars represent the span of the target EIF values depending on which solutions the operator selects to implement.

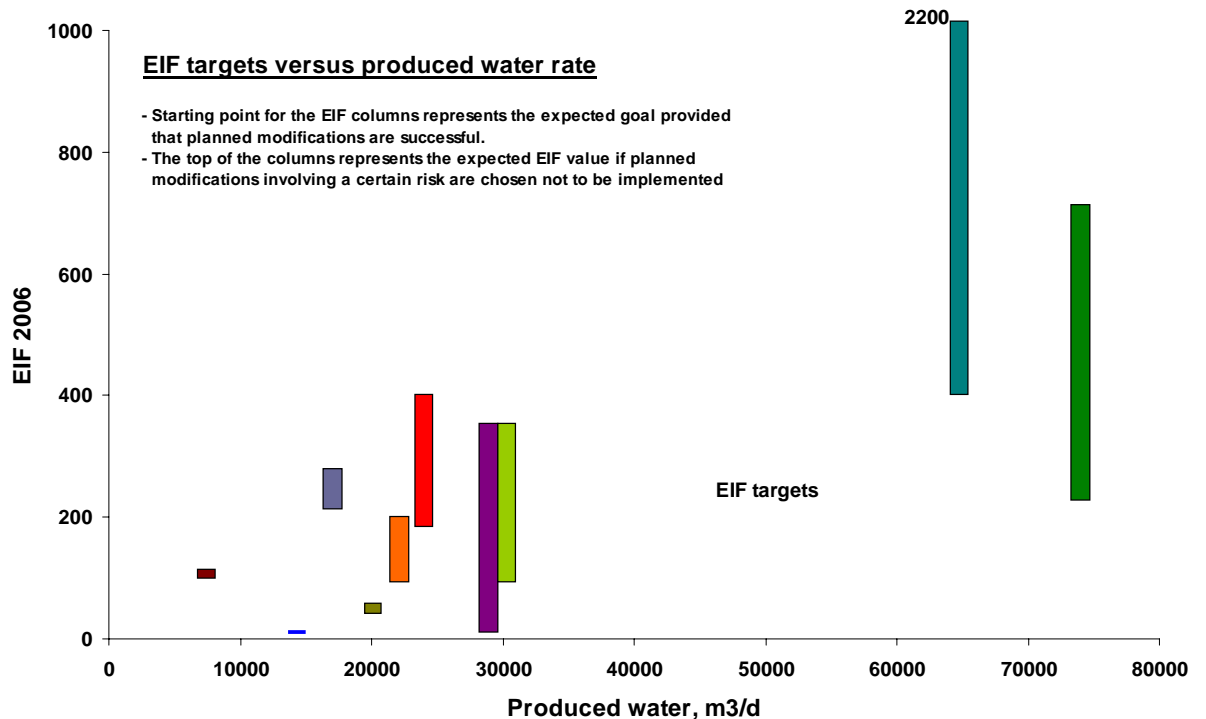
Having more than one alternative, one major challenge is to decide on the alternative that provides the best value for money solution:

- Is it possible to meet the goal by optimizing the already installed technologies?

- Utilize existing, but also add some additional technology that can assist in meeting the target?
- Qualification and implementation of new technology?
- Use of technology that allow you to minimize the negative effect of specific components? (partial removal)

Even more arguments may be added to this simple list of options.

**A critical success criterion is to obtain the correct basis when evaluating the different alternatives, thereby securing the right decisions at the end! But how?**



As said, the list of possible good zero discharge initiatives for a specific platform may be long. However, the list usually includes the following:

**1. Optimize the existing separation system, or include minor modifications. Key elements:**

- Tuning of process regulators to smoothen fluctuations.
- Improved process monitoring with focus on produced water quality.
- Improved three-phase separator internals to improve water quality leaving the separator.
- Optimized operation of the existing hydrocyclones.
- Automatic back-flushing of the hydrocyclone package.
- New configuration of hydrocyclone vessels to increase flexibility regarding capacity per liner, especially 2<sup>nd</sup> stage hydrocyclones.

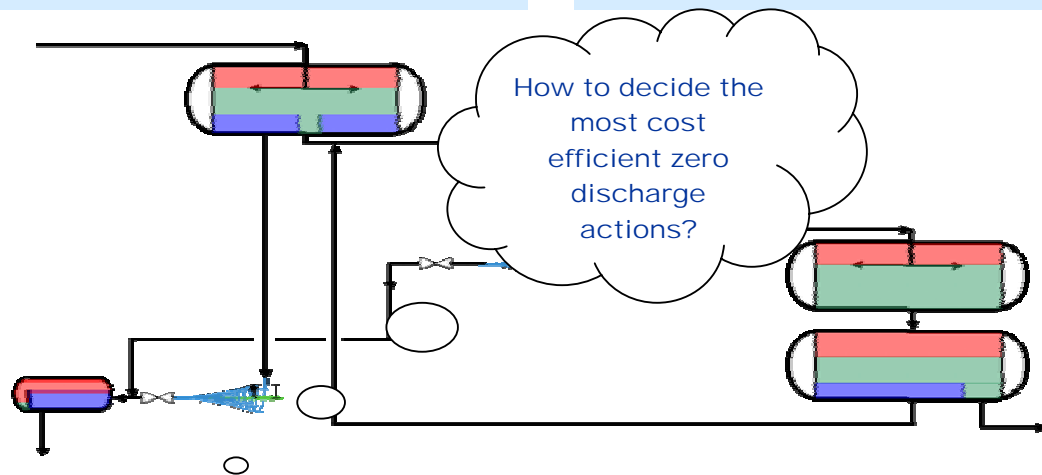
**2. Evaluate new technologies; for instance CTour and Epcon. Key elements:**

- Qualification testing to verify the potential.
- Correct calculation of expected cost efficiency (NOK/EIF).

**3. Optimize existing chemicals, or replace environmental harmful chemicals. Key elements:**

- Minimize the use of production chemicals to improve water quality.
- Verify better working flocculants.
- Qualification testing to verify the effect of green chemicals.

**An offshore survey conducted by Mator to verify the different aspects listed above, will greatly assist in obtaining the correct basis for the most cost efficient zero discharge actions!**



Recent Mator projects:

- ◆ **ConocoPhillips Ekofisk 2/4 J:** Demulsifier testing (scanning)
- ◆ **Statoil Heidrun:** Separators internals verification (scanning)
- ◆ **KerrMcGee Gryphon:** Epcon test
- ◆ **Norsk Hydro Troll B:** Produced water optimization
- ◆ **Statoil Statfjord C:** CTour test
- ◆ **Statoil Norne:** Produced water optimization and flocculant testing.



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