JBC Newsletter
ISSUE NO.6 / April 2016
www.jbarnsleycranes.com

A Bright Future in the Land of the Midnight Sun

Special Edition – Norway in Focus
Editorial

We welcome our readers back for the latest issue of the JBC newsletter. In this special edition we focus solely on Norway and our continued success in both the Norwegian Offshore and Onshore sectors. Relationships have been built with key contractors and operators in the region over the last decade.

Working closely with the likes of Kvaerner, Aker, Aibel in the early stages of front-end engineering has enabled a smooth path through to EPC and EPIC.

As well as design and manufacture of the cranes we have a number of suitably qualified electrical and mechanical engineers who have installed and commissioned our equipment in Norway and Korea on behalf of DSME, HHI and SHI.

We hope that you enjoy reading this edition and your continued interest in J Barnsley Cranes.

Director - M. Banner
Norwegian Installations with J.Baransley Cranes Equipment:

1. Hammerfest LNG
2. Nyhamna Gas Processing Plant
3. Skarv F.P.S.O.
4. Edvard Greig
5. Gina Krog
6. Ekofisk / Eldfisk
J Barnsley Cranes received the contract to supply a 25Te Semi-Goliath crane to Aker Solutions for use on the BP Skarv Floating Production Storage and Offloading (FPSO) vessel which is the biggest ever built for deployment on the Norwegian Continental Shelf. The FPSO serves the Skarv and Idun Fields, located just below the Arctic circle in the Norwegian Sea.

The Skarv FPSO operates in the deepwater region of the Norwegian Sea and is designed to remain on station regardless of the weather. This ensures continuous production and reliable supply to customers.

Aker Solutions designed the topsides for the FPSO also performing the planning and execution of procurement on behalf of BP. Samsung Heavy Industries in Korea built the vessel Hull and carried out the installation of the topsides package.

The Semi-Goliath crane was installed in a Classified Zone 1 Hazardous Area and designed in accordance with Norsok R-CR-002.

FEATURES

- Non-sparking wheels and hook
- Non-sparking anti-derailment device & anti-tip roller on upper rail
- Wind/storm anchors under mob deck rack & non sparking pinion drives on cross travel & long travel drives
- Radio control
- Spot light on hoist c/w safety chain
- Mini jib arm for motor maintenance
- Space heaters for motors with separate supply
Crane Specifications:
- S.W.L: 25Te
- Span: 10.830m
- Lifting height: 17m
- Cranes designed to Norsok R-CR-002
- Area Classification: Zone 1 Gas Group IIB, Temperature T3
- Supply Voltage: 690v 3ph 50Hz
- Radio controlled with Back-Up Pendant
Edvard Grieg - Offshore Platform

J Barnsley Cranes have delivered a package of Explosion Proof Cranes for the Edvard Grieg Topsides facility. The cranes were installed at Kvaerner’s Stord fabrication yard in Western Norway. The platform will be located in PL338 in block 16/1 in the North Sea approximately 180Km West of Stavanger.

The Edvard Grieg field consists of a platform resting on the seabed (steel jacket), with a full process facility, dry wellheads with external jack-up drilling and living quarters. The platform has been successfully installed and commissioning is ongoing.

The Edvard Grieg platform is designed as a field centre and will receive and process hydrocarbons from other discoveries in the surrounding area. A dedicated pipeline has been laid from the Edvard Grieg platform to the existing Grane oil pipeline for export to the Sture oil terminal. Similarly, a dedicated gas pipeline has been laid to the SAGE transport system on the UK shelf for export of rich gas to St. Fergus in Scotland.

Prior to leaving our works both static and dynamic load tests were performed on our Load Test Rig. The test rig not only allows for a 125% static load test to be performed but also a 100% dynamic load test also giving the client the assurance that the crane is functioning correctly prior to leaving our works.

Crane Specifications

- S.W.L: 25Te
- Span: 18.2m
- Lifting height: 17m
- Cranes Design: Norsok R-002
- Area Classification: Zone 2, Gas Group IIB, Temp T3
- Supply Voltage: 690v 3ph 60Hz
- Non-Sparking Wheels, Hook and Anti-Derailment Device, Anti-Collision, Radio Control, Maintenance Walkway
Installation of 25Te Wellbay Crane

J.Barnsley Cranes arrive at Kvaerner’s Facility in Stord, Norway
Ekofisk 2/4 Z is a wellhead platform in the Ekofisk Complex with 36 well slots, 35 of which are for production and one is dedicated to the reinjection of cuttings. The wells will be drilled by a jack up drilling rig placed next to the 2/4 Z-platform. The platform is designed and constructed to carry out multiple simultaneous operations, such as production, drilling, well maintenance and well intervention activities.

A number of explosion proof overhead cranes were installed at a facility on the west coast of Norway in 2013. The image shows testing using water bags with a weight of 25T. The cranes were commissioned and handed over in November 2013.

### Crane Specification

- **SWL:** 25Te
- **Span:** 19.35m
- **Lifting height:** 16.78m
- Cranes designed to Norsok R-CR-002
- **Area Classification:** Zone 2 Gas Group IIB, Temperature T3
- **Supply Voltage:** 690v 3ph 60Hz
- Radio controlled with Back-Up Pendant

### Features

- IP66 Enclosure Protection
- Overload protection
- Thermistor Protection to Motors
- Non-sparking Bronze Wheels & Load Hook
- Non sparking Anti-Derailment device for Crab and Crane
- Stainless Steel Festoon Systems
Eldfisk Platform 2/7 S

Eldfisk is an oilfield that also contains some gas. The field was discovered in 1970, approved for development in 1975 and started production in 1979.

Eldfisk is the second largest of four producing fields in the Greater Ekofisk Area and one of the largest on the Norwegian continental shelf. The field is located in block 2/7, about 16 kilometers south of Ekofisk, not far from the UK and Danish shelves. The water depth in the area is just under 70 meters.

Eldfisk is developed with a total of four platforms. Three of them are connected with bridges (the Eldfisk Complex), while the fourth, Eldfisk 2/7 Bravo, is located about six kilometers northwest of the Eldfisk Complex.

The Eldfisk II project will contribute to continued production towards 2050. The integrated platform Eldfisk 2/7 S was installed in 2014 and production is started in 2015.

J Barnsley Cranes engineers assisted COP/Kvaerner with the Installation and commissioning at the Kvaerner yard in Stord, Western Norway. 2 * 25Te Explosion Proof cranes were installed on the topsides module on the Intervention Deck and a 6Te Crane Explosion Proof Crane on the Mezzanine floor.
Typical Documentation Levels

- Supplier Document List (SDL)
- Production Plan (EPMS)
- Quality Plan, Including Test and Inspection Plan
- General Arrangement Drawings
- GA Panel Layout including Parts List
- Wiring Diagrams
- Cause & Effect Charts
- Instrument Loop Diagrams
- Lubrication Chart & Index
- Tag/Document Reference List
- Recommended Spare Parts List (RSPL)
- ATEX Schedule
- MRB Introduction and Index
- Weld Summary Index
- Electrical Data Sheets
- Noise Data Sheets
- Procedure for Installation and Hook-Up
- Operating & Maintenance Instructions
- Commissioning and Start-up Procedures
- Preservation, Storage, Packing and Unpacking Procedure
- Factory Acceptance Test Procedures & Reports
- Painting Procedures & Report
- NDE Test Procedures & Reports
- Welding Procedure/Specifications With Supporting PQRs
- Material Traceability List
- List of Certificates
- Certificate Of Conformity
- Documentation for CE Marking/EC Declaration of Conformity
- Material Certificates
- Certificates For Re-Certification Of Equipment
- List Of Content (LOC) For Final Documentation
- User Manual/Final Documentation
- Mechanical Completion & Certificates
- Manufacturing Record Book (MRB) - Total Version
## Experience List - Norway Operations

A selection of Norwegian projects from J.Barnsley Cranes

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>TYPE</th>
<th>OPERATOR</th>
<th>ENG. HOUSE</th>
<th>EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skarv Offshore FPSO</td>
<td>Offshore FPSO</td>
<td>BP</td>
<td>Aker Solutions/SHI</td>
<td>25Te Ex Semi-Goliath Crane</td>
</tr>
<tr>
<td>Gina Krog</td>
<td>Offshore Platform</td>
<td>Statoil</td>
<td>DSME</td>
<td>5 * Explosion Proof Bridge Cranes</td>
</tr>
<tr>
<td>Nyhamna Gas Processing Facility Expansion</td>
<td>Onshore</td>
<td>Statoil</td>
<td>Kvaerner</td>
<td>2 * 35/5Te DG EX Cranes 1 * 35/5Te DG EX Cranes</td>
</tr>
<tr>
<td>Hammerfest</td>
<td>Onshore LNG Plant</td>
<td>Statoil</td>
<td>Linde Engineering</td>
<td>6 * Explosion Proof Bridge Cranes 2 * Explosion Proof Jib Cranes 1 * 30Te Explosion Proof Goliath Crane</td>
</tr>
<tr>
<td>Edvard Grieg</td>
<td>Offshore Platform</td>
<td>Lundin</td>
<td>Kvaerner</td>
<td>2 * 25Te Explosion Proof Bridge Cranes</td>
</tr>
<tr>
<td>Ekofisk</td>
<td>Offshore Platform</td>
<td>Conoco Phillips</td>
<td>Aker Solutions</td>
<td>6 * Explosion Proof Bridge Cranes</td>
</tr>
<tr>
<td>Eldfisk</td>
<td>Offshore Platform</td>
<td>Conoco Phillips</td>
<td>Kvaerner</td>
<td>4 * Explosion Proof Bridge Cranes</td>
</tr>
</tbody>
</table>