



RESEARCH AND DEVELOPMENT BRINGS NEW PRODUCT BREAKTHROUGHS

NOV ASEP Elmar's cutting-edge research and development work continues to produce innovative wireline pressure control and winch product designs. Over the last year, we have successfully brought a host of new products to the market which offer major cost, safety and environmental benefits to operators and service companies.

Investment in new oilfield technologies is very important for the industry and our clients. These are our latest innovations available across all operation regions:

Piranha tool catcher

Piranha is the evolution of an earlier tool catcher model, advanced using FEA simulations to be even lighter, more compact and quicker to assemble than its predecessor. It is available worldwide following successful field trials in Germany and Thailand.

Photo: NOV ASEP Elmar technician George Senkbeil fitting the new Constrictor wireline BOP ram seal.

QuickLoad slickline stuffing box

Quickload weighs just 16 kilos to qualify as a one-man lift tool and its rubbers and brackets can be changed out without rigging down or with the cable in hole. Please see full article on pg.6.

e-drive system - NESSIE

We have now developed a truck mounted and offshore Zone 1 version of the fully electric e-drive logging UniTruck, adding to a range of environmentally friendly wireline pressure control and winch units. Collectively these form part of our remotely operated intervention package known as NESSIE.

Constrictor™ ram seals

Constrictor is the first available wireline BOP ram seal to be independently verified to contain well fluids for a minimum of 12 hours. Please see full article on pg.3.

30,000 psi equipment

The industry's first 30,000 intervention packages will be rolled-out late November 2011.

NEW TECHNOLOGY PRESENTED AT OFFSHORE EUROPE

NOV ASEP Elmar has presented its latest in innovative products to delegates at Offshore Europe 2011 in Aberdeen.

In addition to exhibiting at Offshore Europe, NOV ASEP Elmar also hosted open house events for delegates to visit and view a first hand demonstration of its latest technologies.

Located just a few hundred meters from the exhibition itself, the open house included demonstrations of NOV ASEP Elmar's pioneering NESSIE (NOV Electric Smart System Intervention Equipment) technology.

Andrew Douglas, sales and marketing director of NOV ASEP Elmar, said: "We were excited about presenting our NESSIE technology at this year's Offshore Europe Exhibition. The system is a breakthrough in using electronics and software to control well intervention equipment and this proved a great opportunity to show that the technology is a reality, and not just a concept. NOV ASEP Elmar's new wireline ram seal, the Constrictor, was also on display at our stand.

"The NESSIE equipment has great potential for growth in areas such as Europe, where there are tough regulatory requirements. I would also like to thank Aker Solutions for allowing us permission to display equipment at Offshore Europe that is owned by them.

"The Constrictor has evolved from earlier commercially proven ram seals, improved to be even more reliable, require less maintenance and operate under more challenging pressure and temperature conditions for longer and is the first of its kind to be 3rd party witness tested under extreme pressure, temperature and time conditions and obtain an independent review certificate."



NESSIE E-Winch



NESSIE BOP Control Skid



NESSIE BCS



1. Constrictor™ Patent Pending 2. NOV ASEP Elmar electrical team leader Malcolm Mcaskill testing NESSIE electric system, UK. 3. NESSIE assembly, NL.



Offshore Europe
Oil and Gas Conference
and Exhibition

6th-8th September 2011 | Aberdeen | UK

Technology Update - WPCE

The New QuickLoad™ Slickline Stuffing Box

Designed by NOV ASEP Elmar's engineering team in Aberdeen, QuickLoad is an evolutionary product that reinforces the company's position as market leaders in wireline pressure control equipment.

It is lighter, more reliable and easier to maintain than its alternatives.

Key Customer Benefits

One-man lift

- Weighing just 16 kilos the main module is easily carried by one person and so can be assembled in a convenient location away from the well. The bracket module can be assembled onto the main module even after the cable head is fed through. This is a major advantage of the new design and negates the need for a removable cartridge.

Working Pressure

- QuickLoad has a working pressure of up to 15,000psi.

Safety

- A built-in dual safety barrier system prevents uncontrolled well fluid loss.
- The dual safety barrier system incorporates a blow out plug and ball check valve for two levels of emergency shut-down.



Easy packing changeout



Chemical injection

- An injection port with an integral check valve is provided for injection of chemicals such as glycol and methanol. This port can also be used for oiling of the line if required.

Change out packings in seconds

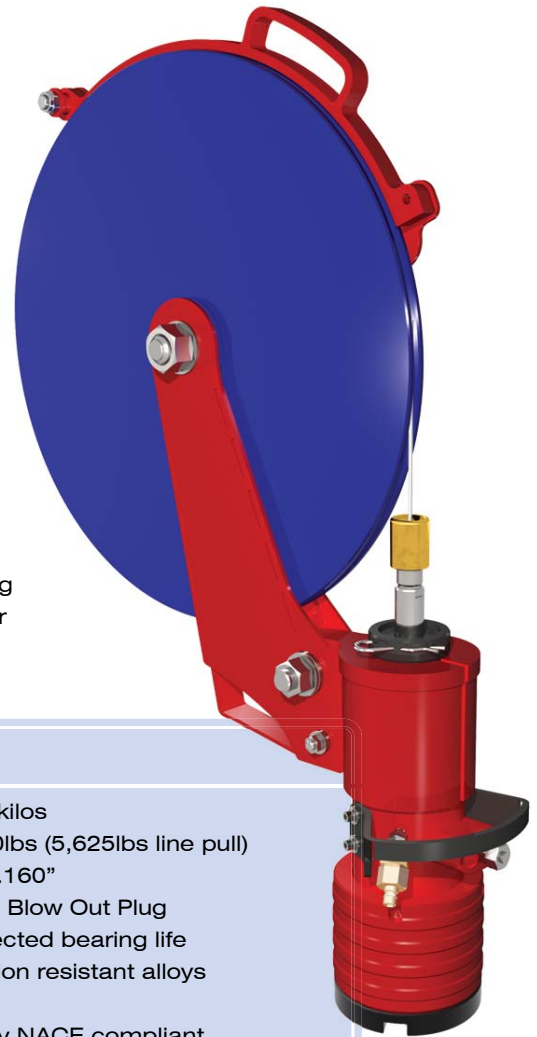
- Rubbers can be quickly changed when worn out without having to rig down and the bracket is removable while the cable remains in-hole, giving the QuickLoad a cost-advantage over other stuffing box designs.

Technical Features

- Stuffing Box module weighs 16 kilos
- Proof Load tested to min 11,250lbs (5,625lbs line pull)
- Suitable for all line sizes up to 0.160"
- Combined Ball Check valve and Blow Out Plug
- Sealed bearings maximise expected bearing life
- Dynamic seal parts from corrosion resistant alloys
- Suitable for H2S service
- Manufactured to API 6A and fully NACE compliant

The NOV ASEP Elmar QuickLoad stuffing box is particularly effective for deepwater operations where heavier line pull and loads are required under greater pressures.

QuickLoad now forms part of NOV ASEP Elmar's WPCE rental fleet and is available across all operating regions.



Technology Update - WPCE

Introducing **Constrictor™** A new critical safety component to revolutionise well integrity



NOV ASEP Elmar's engineering team in Aberdeen has launched the Constrictor. This component will minimise the risk of unintentional pressure release in oil and gas wells and prevent serious well failures.

Constrictor is a new generation wireline BOP multiline ram seal that controls well fluids through the wellbore during intervention operations involving braided line, also known as electric line. It has evolved from earlier commercially proven ram seals, improved to be even more reliable, require less maintenance and operate under greater pressure and temperature conditions for longer.

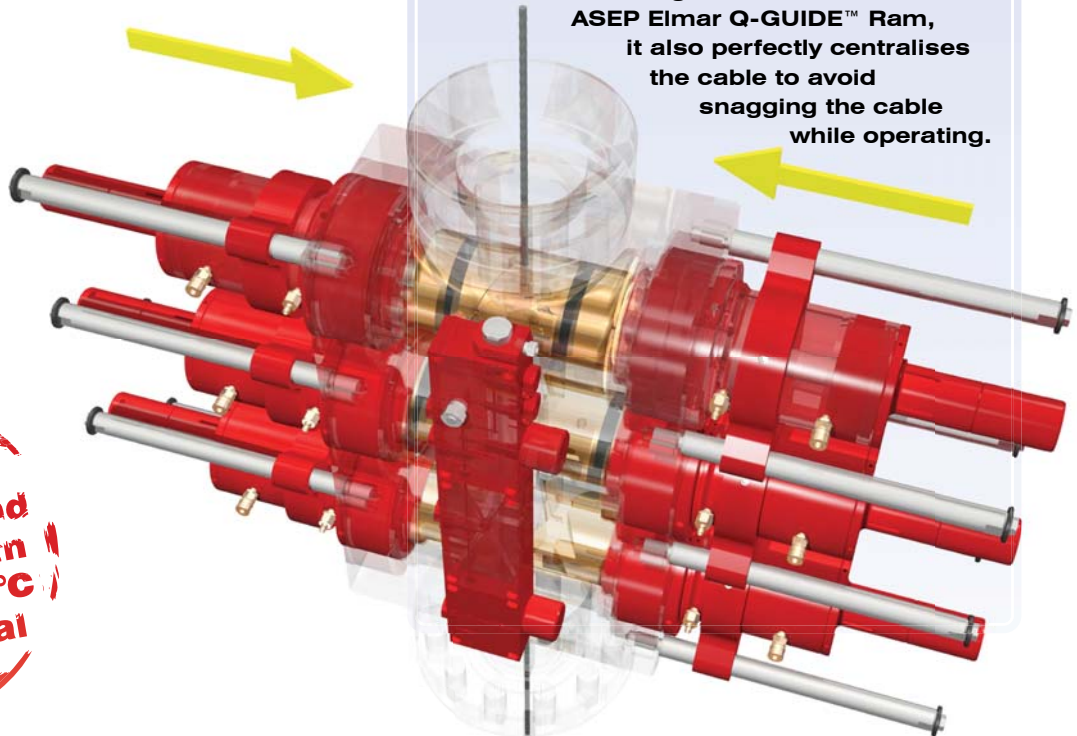
This game-changing technology is the first of its kind to be 3rd party witness tested under extreme pressure, temperature and time conditions and obtain an independent review certificate.



Customer benefits

- It has a working pressure of 15,000psi.
- It is proven to perform at temperatures ranging from -46°C to 180°C.
- In the event of unexpected cut & drop, it can seal blind, contain wellbore fluids for at least 12 hours and subsequently seal successfully on any wireline up to 5/16" (and in the future up to larger diameter wires).
- Previous generations of similar products on the market are typically only proven to seal blind for as little as 15 minutes.
- During routine intervention activities it can close on the wireline cable without shearing it, thereby allowing crews to perform remedial work on the cable if required.
- Constrictor can be retrofitted to existing wireline BOPs in operation.

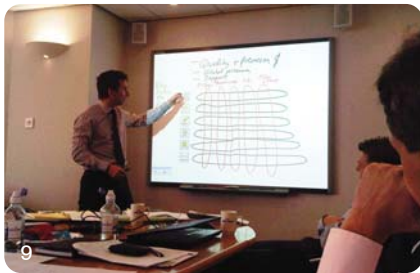
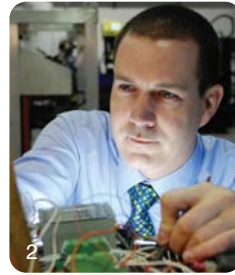
Used together with the NOV ASEP Elmar Q-GUIDE™ Ram, it also perfectly centralises the cable to avoid snagging the cable while operating.



15K
Third party
witnessed and
certified from
-46°C to 180°C
12 hour seal
hold

NOV ASEP Elmar - In Pictures

NOV ASEP Elmar operates internationally in the UK, Netherlands, Americas, Far East and Middle East. Below is a snap shot of some of our manufacturing operations and staff from across these locations.



1. Ian Skirling 2. Carl Wood both Aberdeen 3 Cor te Hennepe, Groot-Ammer, NL 4. Javier Melendez, Houston 5. Stores Team with new Kardex, Groot-Ammer, NL 6. Mohamad Fazlan Bin Anang, Singapore 7. Troy Vaughan, Houston 8. Sundarajan Ramesh, Singapore 9. Andrew Douglas, Aberdeen 10. Hu Li Min, Singapore 11. Ashley Nguyen and Debbie Daily, Houston 12. Andrew Evans, Freedom Nkomo and Ken Hightower Jr, Houston 13. Marcel Neelen (left) and Peter Heester (right), Groot-Ammer, NL 14. Adam Simpson, Aberdeen 15. Amandeep Singh, Dubai

Regional Updates

Netherlands Update

by Alastair Ellis, general manager, NOV ASEP Elmar Netherlands

Since the launch of NOV ASEP Elmar's first range of fully electric wireline intervention solutions, widely known as NESSIE, winch and pressure control packages have been steadily shipped out to customers.

E-drive units have recently been delivered to Deepwell for offshore operations in Norway and following delivery of NESSIE equipment to Aker Solutions we held a one day event at the company's base in Stavanger where the MultiSplit C unit with e-drive technology was on show.



NESSIE unit in assembly

Our manufacturing team of over 100 electrical and mechanical technicians continue to be busy with 16 units completed in May alone and we are pleased that the E-workshop is up and running.

Elroy Zwiers has been appointed as Service After Sales (SAS) manager for the Netherlands to provide support to customers after the sale of equipment.



Out the door

Americas Update

by David College, general manager, NOV ASEP Elmar Americas

Since joining NOV ASEP Elmar in April I have enjoyed working with the Americas team and learning all about our processes and products. We welcome a number of new employees in key positions in Houston and look forward to the future with great optimism. Whilst we always have plenty of opportunities for improvement, we have made good progress in areas such as with the after sales (SAS) and QA groups.



Out the door



David College
GM Americas



First Slickline Unit
refurbishment in
AE Americas

Middle East Update

by Brian King, general manager, NOV ASEP Elmar Middle East



Nancy De'melo (left) and Teresa Judit (right)

We have opened a new 10,000sqft workshop and office facility in Dubai to boost our supply of locally manufactured equipment across the Middle East. Following this expansion our product portfolio has enhanced, increasing production of wireline pressure control equipment, tubular completion products, grease and hydraulic control modules, pressure test units and wireline winches. We have also recently opened a new service facility in Saudi Arabia to provide faster mobilisation and service support to customers in the area, and the next stage of our internationalisation plan includes growth of our market in India.



NOV ASEP Elmar mechanics based in Dubai complete training given in Groot-Ammer on the new SlimLine'

Regional Updates

Far East Update

by Murdo Bain, general manager, NOV ASEP Elmar Far East

Following an intense 5 day API audit at the Singapore facility, we have successfully been accredited to manufacture equipment under API standards 6A, 14L and 7-1. We have expanded the range of services available from Singapore to include the servicing, repair and recertification of NOV ASEP Elmar Coiled Tubing pressure control equipment.

Manufacturing continues to be busy with a number of new units ready to be shipped. A 40ft Basereach mast is destined for NOV ASEP Elmar in the UK and a 5 Series E-Lite Module will be delivered to Almansoori in Thailand.

The manufacture in Houston of the new LEAP 800 trucks for Great Wall Drilling China is progressing well including the redesign of the interior for GWDC's requirements. Interior photos can be seen above and right.



Aberdeen Update

by Brian Garden, general manager, NOV ASEP Elmar, UK

NESSIE Assembly in Aberdeen



NOV ASEP Elmar continues to invest in the future with the employment of a new batch of apprentices who will be deployed in all disciplines. Individuals come from various local schools and they can look forward to a structured training programme and a great future within the industry.

Staff recently enjoyed a golf day at Turriff and we were lucky to get great weather for the day which added to everyone's enjoyment.

Congratulations to the overall winner Graham Matheson and the winners of the team event were Phil Emslie, Graham Matheson and Bruce Clelland.

Employee Profile



NAME: Troy Vaughan

JOB TITLE: SAS service engineer – wireline winches, Houston TX, USA

QUALIFICATIONS: Womack Industrial Fluid Power level 1 and 2. Womack Industrial Fluid Power Troubleshooting level 1. Hydraquip Industrial Fluid Power Pumps and Motors

GETTING THERE: I joined NOV ASEP Elmar straight from high school in 2002 as a mechanic's assistant manufacturing wireline trucks before being promoted to mechanic 1 outfitting the back ends of the wireline trucks. A few years later I was offered a position as winch assemble mechanic building all the winch frames for NOV ASEP Elmar wireline truck units in the United States.

NOV ASEP Elmar offered me an opportunity to attend fluid power classes and after completion, I was promoted to hydraulic mechanic 1, which allowed me to hone my skill set as a hydraulic mechanic, and then field service technician shortly after.

WHAT ROLE DOES YOUR DEPARTMENT PLAY WITHIN THE COMPANY? The service after sales department, better known as SAS, offers our clients high quality parts and repairs after purchase of equipment, as well as training clients on newly purchased equipment. We have a global remit so this service is offered to clients all over the world.

BEST BITS OF YOUR JOB: I would have to say troubleshooting is my favorite part of my job. I enjoy working through problems and fault finding. In this line of work you almost never come across the same problems twice.

WORST BITS OF YOUR JOB: Airports are one of my least favorite places to be, especially when you have a 10 hour flight ahead of you.

IN MY SPARE TIME: I have recently purchased a 1974 ranch style house that I am currently renovating while living there.

ADVICE TO OTHERS: You don't build a reputation on what you're going to do (Henry Ford)

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