

Lerwick's extended reach in decommissioning market

Operations and opportunities at Lerwick Harbour's newest, major expansion for the offshore oil and gas industry will be highlighted today (Tuesday 29 August) at an insight into the extended Dales Voe Base, with representatives of Government agencies, the oil sector, other port users and stakeholders attending.

The £11.95 million project by Lerwick Port Authority added 75 metres to bring the deep-water quay to 127 metres, and complements 45,000 square metres of adjacent lay-down, enhancing the port's multi-user infrastructure for decommissioning offshore structures and supporting development of subsea fields.

Speakers will include Gunther Newcombe, Director of Operations, Oil and Gas Authority, Audrey MacIver, Highlands and Islands Enterprise's Director of Energy and Low Carbon, Deirdre Michie, Oil & Gas UK Chief Executive. Also speaking will be Ronnie Gair, Sandra Laurenson and Captain Calum Grains, Chairman, Chief Executive, and Harbourmaster & Deputy Chief Executive respectively of the Port Authority, as hosts. The Government and Highlands and Islands Enterprise, recognising the strategic importance of the location in the emerging market, provided £2.39 million in funding for the extension, also supported by Bank of Scotland.

Lerwick's status as a leading centre for decommissioning is reinforced by the presence at Dales Voe since earlier this month of the Buchan Alpha floating production unit (FPU) which will be dismantled alongside.

Captain Calum Grains, said: "With more than 10 years' experience of decommissioning and the latest expansion at Dales Voe, Lerwick is established at the forefront in providing for the emerging decommissioning

market. We already have proven capability to compete with overseas yards for projects.

"While Dales Voe is a significant step forward, it is also a stepping stone towards the development of an ultra-deep-water quay to meet the industry's future requirements. We are advancing plans and await the right timing and terms – and Lerwick is being recognised increasingly as the right location in the UK for such facilities."

The Buchan Alpha contract, awarded by Repsol Sinopec Resources UK, was won in competitive tender by Veolia, with long-term associate, Peterson. The companies were instrumental in establishing Lerwick's reputation in decommissioning, with projects at Greenhead, including other contracts this year.

The port's capabilities are demonstrated by the project, the largest yet undertaken at Lerwick.

The FPU moored in the voe until the draft is lessened before a move alongside the Dales Voe quay. Approximately 12,000 tonnes of materials will be brought ashore, and any for processing transferred to the licensed decommissioning quayside pad – the only one in Scotland – at nearby Greenhead Base. Veolia is targeting a recycling rate over 98%.

Work over the next year or so will sustain around 35 jobs and employment in the local supply chain. It is another example of decommissioning being a good fit for the scale of the Shetland workforce.

The new quay:

- **Is the strongest in the UK, with unmatched capability at a load-bearing capacity of 60 tonnes/square metre, accommodating the largest heavy loads.**
- **Has clear approaches of 50 metres-plus and 12.5 metres water alongside.**
- **No air draft restrictions.**
- **Can accept the biggest platform topsides using single-lift technology.**



The expanded Dales Voe Base, with the Buchan Alpha floating production unit (foreground). *Photography credit: John Coultts*



lerwick: britain's top port

Ready-made for decommissioning

Track-record:

a decade-plus ongoing decommissioning experience

Capacity:

Over 4,500m of quays & 170,000 m² of laydown

Depth:

berths to 12.5m & anchorages to 50m

Access:

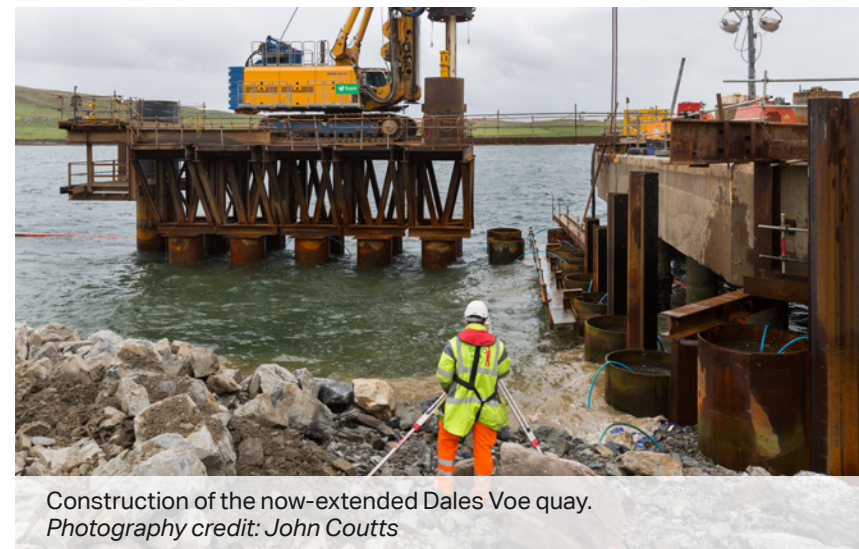
Scotland's only quayside decommissioning yard

Expanded:

new 60t per m² load-bearing quayside



LERWICK PORT AUTHORITY
www.lerwick-harbour.co.uk



Construction of the now-extended Dales Voe quay. *Photography credit: John Coultts*

Heavyweight project gives Dales Voe lift

The challenge in extending the Dales Voe quay was to deliver to a schedule with limited flexibility and potential weather and technical difficulties causing delay.

Arch Henderson LLP, which includes a Lerwick office, provided full design, project and contract management, with Scottish Business Unit of civil engineers, BAM Nuttall, main contractor.

Partner in Arch Henderson, Andrew Sandison, said: "Logistics at a relatively remote location, environmental management, marine traffic and community relations were among factors which had also to be taken into account designing and constructing what is believed to be the highest combined capacity quay in the UK."

BAM Project Director, Graham Hopper, commented: "We had to take weather into account, as much of the activity, including pile, cope and anchor beam works, were within the tidal zone."

The brief called for an additional 75 metres of quay with a deck-loading capacity of 60 tonnes per square metre, 800 tonne per metre line load capacity and eventual water depth of 12.5 metres alongside, enabling skid transfer from a barge of complete topside modules up to 48,000 tonnes. Work began in April 2015, with completion June 2016 on budget.

The new quayside was formed with 55,000 cubic metres of aggregate reclaimed on-site and retained behind a tied combi-pile wall, restrained by tie-bars, concrete anchor beam, tension anchors and dowell bars.

With the rock expected to pose significant challenges to

conventional rotary drilling tools, a unique pneumatic cluster drill was commissioned.

BAM Nuttall's in-house-designed modular piling platform enabled advancement of the combi-wall, avoiding use of expensive floating plant, improving productivity and reducing the risk of weather delays.

A heavily-reinforced coping beam the length of the berth required mass pours of 1,200 cubic metres underwater concrete to bring it to formation.

Constructing adjacent to a working quay meant avoiding interference with vessel operations. A traffic management plan was developed with the Port Authority which also meant harbour staff and others could use the neighbouring area safely.

Environmental management included an otter survey and minimisation of disruption under licence. A marine mammal observer was employed to ensure cetaceans and other marine mammals were not disturbed. The majority of operatives were trained as marine mammal observers.

A boom and turbidity curtain, hanging two metres below sea level, were installed the length of the site to mitigate silt. Safety awareness was enhanced, including the introduction of feedback Fridays and look-forward Mondays initiatives.

*The project has been short-listed for a Saltire Society/Institute of Civil Engineers Scotland award.

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We were pleased to provide full multi-disciplinary service covering all design, consents, procurement, project management and cost control for the Dales Voe Heavy Lift Quay project and we would like to congratulate Lerwick Port Authority on this significant development.

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BAM NUTTALL HAVE BEEN OPERATING FOR OVER 150 YEARS AND HAVE HAD A CONTINUOUS PRESENCE IN SCOTLAND FOR THE LAST 60 YEARS.

BAM Nuttall and our sister company BAM Ritchies are delighted to have been the Principal Contractor for the construction of Dales Voe and working alongside Lerwick Port Authority.



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