



Informing Progress - Shaping the Future

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Energy Decommissioning: What's the Damage?

This roundtable event was hosted by the FOIL Energy SFT and was led by **Gary Mawditt** of **Matthews Daniel**.

What is decommissioning?

This covers a whole range of activities from beaching ships in the far east to toppling rigs to promote reefs in Australia, but also covers the heavily regulated decommissioning of oil and gas installations in the North Sea. These must be removed at the end of life and the seabed returned to its natural condition. While operators have been removing platforms from their fields for years, decommissioning is a relatively immature industry in the UK, as reserves are depleted and infrastructure reaches the end of its operational life and options for late life extensions are exhausted or no longer commercially viable. The Petroleum Act 1998 and the OSPAR Convention require that every part of the installation be removed and taken ashore for re-use or disposal, and that the seabed should be left in a pristine condition.

This is in the context of around 270 facilities in the North Sea that require decommissioning, with all of the associated pipelines, umbilicals, sub-sea structures and wells. For fixed installations UK Law requires platform owners to work towards complete decommissioning, as this is the most environmentally sensitive solution available. Under certain circumstances, the installation may remain wholly or partly in

IN BRIEF

What happens when an oil rig is decommissioned and what steps must the owner take to avoid criminal and civil liability?

This presentation and a Q&A session cover the situation in the UK.

situ via application for some permitted derogations, for example fully buried steel pipelines which it is neither economically viable nor environmentally sensible to remove. Other features, such as drilled cuttings, steel footings and piles may also be left in place, as the risks of environmental damage in removing them and the energy costs in doing so outweigh any benefits. Rigs-to-reef is not currently an option in the UK.

In 2020, £1.1bn was spent on decommissioning: around 10% of the industry's annual expenditure. This is down on previous years and the level of expenditure is under scrutiny. It could be the result of greater efficiency or cost reduction, but it could also be the result of reduced activity, with evidence that there is no rush to decommission. Of particular concern is the fact that nearly double the number of wells were abandoned relative to the number of new wells drilled.

Nevertheless, 2020 did see some genuine progress in removal projects around the North Sea. There was decommissioning of a third facility at Brent. Shell is said to have a 3bn USD well abandonment liability on its producing fields, with half of that likely to be incurred over the next five years. They are reputed to have spent 900m USD in Brent alone on 150 wells in the last 10-12 years.

In the southern North Sea, 38 offshore platforms, 150 wells and over 2,000 kilometres of pipeline are to be removed, along with the onshore terminals by Chrysaor alone.

In Denmark, the Tyra Field has been operating for 40 years, but is having problems with subsidence under the main platforms. These are being removed but the jackets are being re-used.

The speaker then listed numerous sites where decommissioning had taken place in UK waters between February and October 2020.

Regulations, Red Tape and Bureaucracy

There are numerous interested parties/stakeholders, including national governments, regulatory bodies, owners, decommissioning contractors, national and local communities, investors, consumers and insurers. There are also many statutory and regulatory requirements to be complied with during the decommissioning process with the main regulations in the UK EEZ being the Petroleum Act 1998, Energy Act 2016, OSPAR Decision 98/3 on the Disposal of Disused Offshore Installations and The Offshore Installations Regulations 2015 (governing Offshore Safety Directive, Safety Case System etc.).

The Decommissioning Process

An oilfield has a life cycle, which begins with a feasibility study, moves through the planning and construction phases, sees a period of operation and maintenance and ends in decommissioning. Decommissioning should not be seen as a single act: it is a staged process, which starts even before production comes to an end. A request will be submitted for a Cessation of Production Permit, and once proposal this is granted a Decommissioning Programme must be submitted to the Oil and Gas Authority, which should include: an environmental impact assessment; how the operator intends to clear the site; and any derogation requests. As part of this process all due consideration must be given to alternatives to abandoning or decommissioning.

Over 138 approvals have been issued by various regulators since 1988. Recurring themes are pipelines being left in situ, and jackets and topsides being removed for recycling. Many of these structures are in the southern North Sea and have involved smaller installations in shallower water. The structures in the northern North Sea that have still to be dealt with are larger and more

complex. Floating structures tend to be redeployed, rather than decommissioned, but these are in the minority, because fixed structures were encouraged in the early days, to promote commitment to the North Sea.

There are 24 draft proposals for decommissioning under consideration, with fixed structures to be removed for disposal and/or recycling.

Decommissioning takes several years and involves far more than just removal. Long before production ceases, project management begins with compliance with all regulatory requirements and requiring alterations in Safety Cases.

Once production begins to run down, and as the installation goes through this end of life phase, issues arise such as continuing maintenance and equipment being taken out of use.

The next phase is well abandonment: the most significant in time and cost, with 49% of a budget of £15bn allocated to this over the next ten years. There are concerns that supply issues could lead to a possible shortage of rigs in the future and with more modern versions not being suitable for older well stock.

When abandonment takes place, the well bore is filled with cement and casings, etc. are cut and recovered, with cutting to fifteen feet below the mud line, so that the sea bed is clear. The next stage is isolating and cleaning the facilities and the pipelines, to remove all contaminants. There must be zero contamination of the sea.

With the large midwater northern North Sea platforms, specialist barges are then used to remove and recover the topsides, either as one piece, in modules, or in some cases piecemeal removal. This is followed by the removal of the substructures and jackets, often using cranes and barges. It is estimated that over the next 10 years, 1m tonnes of topside and substructures will be removed.

This material is disposed of onshore, to be dismantled and, wherever possible, reused or recycled. The seabed is cleared by the removal (where practicable) of remaining pipelines and subsea infrastructure.

Surveys are then conducted to determine whether or not any further work is required to clear the site, followed by long term monitoring of the site. With long term monitoring, in theory at least, operators are liable in perpetuity for the site and the wells. How future liability for an escape from any of the many wells can be met (including through insurance) is not clear and remains an uncertainty for the licensees required to undertake the decommissioning. There is also uncertainty as to whether all of the vast numbers of wells abandoned in the North Sea in the last 40 years have been accurately recorded and mapped. Ownership of wells has also changed hands.

What About Insurance?

This poses the questions: what are we insuring; who are we insuring; from when; for how long; on what basis is it insured; what is it worth; and what are the liabilities?

The example was given of a simple form of platform, where decommissioning had reached the stage at which tenders had been invited for the removal of the top sides, legs and gravity base. The value of the rig for insurance purposes had been reduced from circa €80 million to circa €30 million, when a ship collided with it. Although the damage was minimal, the cost of stabilising it for the purpose of removal, including re-instatement of the platform cranes that were needed for use in the

decommissioning program was high enough that the owners argued that it breached a policy constructive total loss threshold.

Q&A

Q: On this issue, a delegate observed that even when waiting for the topside to be removed during decommissioning, most platforms are insured on a new for old basis. There is never an intention to repair or replace the rig; the concern is the cost of removal. There seems to be no suitable product at the moment, just to cover that concern, so that the owner faces the prospect of a potential windfall under current arrangements.

A: A constructive total loss situation can arise, even where actual damage is minimal, but because the sum insured has been reduced to reflect the asset's value at that particular stage of decommissioning.

Insurers have looked into providing both a 'Decommissioning All Risks' and something like a cost over-run insurance, and it is understood this is a type of cover operators engaged in decommissioning activities are interested in. . Even then, there is the prospect of an additional premium to pay on assets that are now only a liability, and continuing to schedule these assets under existing operational policies may remain attractive.

It is unclear what the insurance market will offer in the future and what it will be prepared to cover.

Q: How did *Brent Spar* change the face of decommissioning? The questioner noted that it created a PR disaster for the producer and among other factors provoked reaction from *Green Peace*.

A: It almost certainly did have an effect. It ceased to be an industry issue but became one in which the public was involved. The reaction took the operators by surprise with boycotting of their products. It probably led to other decommissioning being deferred as the producers did not want to be the next in line.

From a practical perspective it gave rise to the emphasis on planning before decommissioning, to make sure that every aspect of safety and disposal is covered. There is also a political aspect, with government heeding what the environmental lobby is saying. For that reason, rigs-to-reefs is never likely to be an option in the UK.

Q: Does a well need to be depleted before it can be decommissioned, or is it sufficient that it is merely deemed to be uneconomical?

A: Provided permission is obtained to decommission, there is no set criteria for the level of depletion beyond the requirements of the licence.

Q: Is legal liability in perpetuity really that, with various limitations on legal liability?

A: This is the problem for owners and insurers. The claim arises when the incident occurs and the government/regulator will be looking for someone to pay. The operator and/or its insurer may not still be around. It is an established principle that if the latest owner is no longer in business, liability slips down the chain to the previous owner(s), until a deep pocket is found. From an insurance perspective this would be extremely long-tail exposure.

Q: Rigs-to-reef is being practised in the US: where else?

A: Australia and possibly Thailand. Also, a platform had not been recovered in Brazil and was being used in that way. It could apply anywhere with deep water, such that a wreck does not provide a hazard to navigation or fishing, or where it is not obligatory to leave the sea bed clean.

Q: When an oil field is being decommissioned, is there a chance that wells may not be found and capped-off?

A: This is relatively unlikely but not impossible. Then the issue is identifying whose well it was, when the records are often poor although it was noted that licences were issued in 'Blocks'. This would normally leave liability with the current operator. A problem can arise when a well thought to have been abandoned had only been suspended.

Q: What will happen to concrete structure?

A: They are not exempted and must be removed, unless a derogation is granted.

As these discussions were limited by time, it is likely that further discussions will be held at a later date.

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