Decommissioning Offshore Petroleum Facilities in Australia

INTRODUCTION

This article has been prepared jointly by S2V Consulting and Herbert Smith Freehills. The firms have collaborated in recognition that a number of aspects of the decommissioning of offshore oil and gas facilities in Australia are relatively novel, and that the regulatory regime does not provide specific detail on when or how decommissioning should take place. Furthermore, the firms’ experience with offshore oil and gas operators to date indicates that in addition to and largely because of the absence of a prescriptive legal process, there exists a potential opportunity for businesses to achieve optimal environmental and commercial outcomes from the decommissioning process, whilst maintaining compliance with legal obligations and meeting the requirements of stakeholders.

Since 1967 Australia’s offshore petroleum exploratory, development and production activities have been governed by Commonwealth laws with coastal waters administered by State and Territory legislation. During that period substantial developments have occurred in the Bass Strait and in the Greater Carnarvon Basin region off the north-west coast of Australia. More recently, significant developments have occurred in deeper water in the Carnarvon and Browse Basins, north-west of Broome.

While none of these major facilities have been decommissioned, a number of smaller installations have. In most cases, this has involved the disconnection of a floating production facility and the removal of associated flow lines, wellheads and moorings that have either been taken and scrapped or refurbished in South East Asia. In some cases, items have been left in situ (such as concrete anchors or pipelines) but otherwise installations have been removed.

As larger projects approach the end of their productive life, it is timely to reflect on the current framework for decommissioning in Australia and internationally the risks and opportunities faced by operators in navigating the process.

DECOMMISSIONING OPERATIONS

The term “decommissioning” describes the final phase of an offshore petroleum field involving the removal or other treatment of a petroleum installation at the end of its useful life.

A decommissioning operation typically has four stages:

+ Planning Phase:
  ▶ preliminary studies to determine the range of decommissioning options and their costs
factoring options into the late life phase to determine when production will cease based on economic factors and the decommissioning option selected in conjunction with the relevant regulators

+ Production activities cease and wells are plugged
+ Complete or partial removal of the offshore installation
+ Disposal or reuse of the removed parts (either at sea or onshore).

There is no one-size-fits-all approach to decommissioning and the options are influenced by a wide variety of factors including – in no particular order – the regulatory and political framework, the depth of the water, the nature and size of the installation, engineering limitations, safety concerns, environmental implications, effect on other marine users, cost and stakeholder interests.

**PRIMARY REMOVAL OBLIGATION**

The Offshore Petroleum and Greenhouse Gas Storage Act 2006 (Cth) (**OPGGSA**) provides that a titleholder must remove “all structures that are, and all equipment and other property” used in connection with offshore petroleum operations.

While this requirement appears to mandate a complete removal of all equipment, it is subject to other provisions of the OPGGSA which allow the possibility of partial removal or even abandonment in situ; the titleholder may make alternative arrangements for the treatment of equipment in an environment plan (EP), provided that those arrangements ensure that impacts and risk are acceptable and ALARP. This flexibility enables the titleholder to propose an alternative approach whereby other potential consequences, such as excessive cost or safety or environmental risk, can be used to demonstrate that removal may not necessarily be the best option. This potential flexibility is in contrast to other mature oil and gas regions such as the North Sea, where total removal is the norm due to long standing legal obligations requiring the removal of facilities.

The OPGGSA explanatory memoranda refers to circumstances where NOPSEMA may exercise discretion or have power to determine the extent of removal of facilities. Decommissioning is also a matter that some titleholders may have addressed in the field development plan accepted by the Joint Authority (on advice from NOPTA).

**NOPSEMA’S POWER TO GIVE DIRECTIONS**

Under the OPGGSA, NOPSEMA (and for certain purposes the Commonwealth Minister) has the power to give directions to current and former titleholders to remove all property, plug all wells, provide for the conservation and protection of natural resources in the title area and rectify any damage to the seabed.

NOPSEMA’s power to issue remedial directions envisages making “arrangements that are satisfactory to NOPSEMA in relation to that property”, which by implication might permit partial removal.
SURRENDER OR TRANSFER OF A TITLE

The surrender of a title is the final step taken at the end of a title’s useful life. It is envisaged that a titleholder will not be allowed to surrender a title until, among other things, NOPSEMA is satisfied with the titleholder’s efforts to remove property from the title area, plug wells, and remediate the surrounding environment. It is important to note there have been occasions where wellheads have been allowed to remain in the area of the title after it has been surrendered.

Accordingly, in the case of a surrender of a title, once the decommissioning obligations are completed to the satisfaction of NOPSEMA and the Joint Authority accepts the surrender of the title, the ongoing liability for the removal of any remaining property rests with the government, as NOPSEMA cannot direct a former titleholder to remove property after it has surrendered its title.

SEA DUMPING PERMIT

Disposal at sea of materials associated with offshore petroleum production facilities requires a sea dumping permit issued under the Environmental Protection (Sea Dumping) Act 1981 (Cth) by the Minister for Environment.

In contrast to the United Kingdom, Australia does not have suitable onshore facilities for scrapping large structures. This means that structures will need to be taken to Asia or that facilities will need to be built in order to dispose of large structures onshore, increasing the costs of such activities. Disposal at sea potentially presents an economically preferable alternative.

SAFETY CASE

Titleholders must undertake decommissioning activities in accordance with a “safety case”, produced by the operator and accepted by NOPSEMA under the Offshore Petroleum and Greenhouse Gas (Safety) Regulations 2009 (Cth).

A safety case identifies the hazards and risks associated with an activity, describes how these risks are controlled, and describes the safety management system in place to ensure the controls are effectively and consistently applied.

ENVIRONMENT PLAN

From February 2014, NOPSEMA became the sole designated assessor for offshore petroleum activities in Commonwealth waters.

Importantly, as decommissioning is a “petroleum activity”, it is regulated under the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations) in the same manner as any other “petroleum activity”. As such, prior to any “petroleum activity” taking place, an activity-specific environment plan (EP) must be approved by NOPSEMA.

NOPSEMA must accept an EP if it is reasonably satisfied that it meets the requirements outlined in the Environment Regulations including that it demonstrates that the environmental impacts and risks of the activity will be reduced to “as low as reasonably practicable” and will be of “an acceptable level”. The EP process provides operators with the opportunity to propose alternatives to removal through supported ALARP discussions. For example, the underwater
cutting, lifting, transportation (offshore and onshore) and ultimate onshore treatment and
disposal of pipelines introduces significant safety risks (e.g. heavy lifts, worker exposure to
offshore occupational risks) and environmental impacts (e.g. greenhouse gas emissions from
vessels) that may be shown to outweigh the impact of leaving a contaminant-free pipeline in
situ. Furthermore, biological value might be adversely impacted if pipelines are removed, due to
the loss of habitat that has become established during the operational period of the facility.
Ensuring adequate multi-disciplinary input (such as subsea and pipelines, safety and
environmental engineers) is key to ensuring sensible and feasible technical options are
identified and assessed.

With comprehensive supporting information, and the use of techniques such as net
environmental benefit analysis (NEBA) – already familiar to operators in the preparation of oil
pollution emergency plans – operators can demonstrate that their approaches and preferred
options are ALARP, and if sound arguments are put forward NOPSEMA must accept this. Of
course, in addition to objective scientific factors, ‘acceptability’ to stakeholders of alternative
approaches is key, and the power of public / stakeholder perception in influencing (and
potentially overturning) supported scientific arguments is well documented in instances such as
the decommissioning of the Brent Spar (North Sea). Therefore, an effective stakeholder
identification and consultation programme is essential to identifying an acceptable option.

CONCLUDING COMMENTS

There is currently no prescribed process or mechanism that dictates when to begin the
decommissioning phase nor how this should be undertaken. This leaves titleholders to negotiate
with the Joint Authority (exercising their resource management function) as to when
decommissioning can commence, with the Minister and Department of Environment to secure
the sea dumping permits and with NOPSEMA to obtain the environment and safety approvals.
Fortunately, the lack of prescription also provides an opportunity for titleholders to tailor their
decommissioning plans in a way that best suits their business whilst still achieving
environmental protection goals.

Obtaining a thorough understanding of the legal requirements and engagement with regulators
and other stakeholders should be approached in the same manner as any other approvals
process for a significant project, that is, start early and be systematic.

An expert multi-disciplinary team should also be established early in the planning phase so that
all feasible decommissioning options can be identified and considered. The team should
comprise people with expertise in government relations, community, engineering (especially
facilities, subsea and pipelines and wells), economics, environment, safety and law. We have
seen this approach work well in securing environment plan approvals for oil and gas exploration
and production.

Risks and opportunities in the process should be identified and an action plan created so those
issues are properly managed. For example, legal risks that may be identified include agreeing
to non-achievable commitments, process and decision-making errors by regulators and court
actions taken by third party activists. The gathering of baseline environmental conditions may
also have significant lead time, for instance, the assessment of marine growth and habitat
development on and around subsea infrastructure, and the potential for accumulation and hot
spots of naturally occurring radioactive materials within the infrastructure.
The multi-disciplinary team should be involved throughout the programme, including key stages such as options identification and selection, stakeholder identification, ALARP determination and EP preparation. This will ensure that the best outcomes for all parties are achieved, including the objectives of legal compliance and environmental protection.

AUTHORS

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