

CHAPTER 1 – OVERVIEW OF THE DECOMMISSIONING & RESTORATION

The Government of His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam, through the Ministry of Energy and Industry, is committed to maintaining a clean, healthy and sustainable environment.

Brunei has signed up to various international obligations and international treaties. The IMO Guidelines and standards provide that, in general, an abandoned or disused offshore installation or structure on a Continental Shelf or an Exclusive Economic Zone should be removed as soon as reasonably practical once it is no longer serving the prime purpose for which it was originally designated.

Brunei Darussalam has also signed up to the ASEAN Council on Petroleum “ASCOPE Decommissioning Guideline (ADG) for Oil and Gas Facilities” as of the 5th of November 2012. Based on the ASCOPE Guidelines published in 2012, the Brunei Government has with the support of relevant industry members, developed this “Brunei Darussalam Decommissioning and Restoration of Onshore and Offshore Facilities” Guideline. The purpose of this Guideline, is to set the expectations and framework of the Government during the Decommissioning and Restoration (D&R) processes.

This Guideline provides guidance in preparing submissions for D&R of offshore and onshore structures and part thereof, including wells and pipelines. It provides a framework and is not intended to be prescriptive. It is recognized that circumstances will vary from case to case and that differing approaches may be required. This Guideline covers the process for decommissioning and site restoration of any disused:

- Offshore facility or structure and part thereof, including wells, pipelines jackets and topsides, subsea structures, subsea ancillaries, seabed debris, umbilical and cables;
- Onshore facility or structure and part thereof, including wells, pipelines, workplace and facility locations, pipelines, umbilical and cables (including supporting structures), previously operated/abandoned workplace/facility locations.
- Legacy disposal sites.

This “Brunei Darussalam Decommissioning and Restoration Guideline for Onshore and Offshore Facilities” will supplement the existing D&R related legislation such as Workplace Safety and Health Order 2009 (WSHO) as amended, the Control of Major Accident Hazards (COMAH) Regulations (Amendment) 2017, the Environmental Protection and Management Order (EPMO) 2016 (and regulations thereunder) and future associated legislation, which shall be complied by all concerned.

This Guideline is the result of a collaborative effort between the Government of His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam and relevant Oil and Gas Industry Duty Holders. This collaboration has also included other relevant stakeholders from industry and international consultants. It is the intent to review the Guidelines after three years following the date of issuance, to assess its effectiveness and identify areas, if any, which would require further detailing.

Brunei Darussalam has been an important oil and gas producer for decades and continues to produce significant amounts of oil and gas for the global energy markets. As the oil and gas industry in Brunei Darussalam is maturing, the Ministry of Energy and Industry focusses increasingly on a risk based approach to maximize economic recovery from the oil and gas fields that are approaching their end of field life.

The Control of Major Accident Hazards (COMAH) Regulations (Amendment) 2017, defines and places a legal duty on the “Duty Holder,” of a Facility, to ensure compliance, to the legislative requirements under the relevant law, including decommissioning and restoration requirements for the facility. In principle, there remains an expectation that all assets, structures and equipment will be removed from the territory of Brunei Darussalam by the relevant operators or Duty Holders and the site returned to its final declared state.

During the life of the hydrocarbon field, Duty Holders may choose to declare ‘cessation of production (or operation)’ COP(COO) for a particular facility / well / pipeline /cluster / group of facility / block / field. An agreement of COP(COO) has to be made as a joint process, between the Government and that particular Duty Holder. Once this agreement is reached, the process of D&R of that particular asset, shall continue until the final declared state is reached.

All Duty Holders, operators and companies involved in the D&R process, are expected to follow the Guideline and be aligned to best industry practices and international standards. The Guideline aims to achieve a constructive balance between the safety and protection of people, property and environment, including societal and cost impacts while minimizing the impact to all neighbours.

The Guideline is based on the use of a Comparative Assessment (CA) of D&R options, by the Duty Holder to inform development of a robust D&R Submission. The Duty Holder is to cover all aspects of the D&R processes as stipulated in this Guideline and provide a close out report to the Authority on completion of the whole process.

This Guideline, also highlights the environmental considerations and general technical issues of decommissioning and restoration.

Contents

1.0	GUIDANCE COVERAGE	13
1.1	Preparation of a Decommissioning Program For ASCOPE Region	14
1.2	Work Breakdown Structure for use in Platform Decommissioning	14
1.3	Cost Decommissioning Estimation Methodology	14
1.4	Technical Methodology Statements	15
1.5	Identification, Treating, Storage & Disposal of Waste	15
1.6	Impact Assessment for use in Platform Decommissioning	15
1.7	Consultation Process with key stakeholders	16
1.8	Preparation of Decommissioning Close Out Report	16
1.9	Capture of Decommissioning Knowledge and Lessons Learned	16
1.10	Converting Offshore Facilities to Artificial Reefs	16
1.11	Life Extension Opportunities	17
1.12	Well P & A Planning & Execution	17
1.13	Post Decommissioning Monitoring	18
1.14	Decommissioning of Pipelines	18
1.15	Decommissioning of Subsea Systems	19
1.16	Decommissioning of Floating Production Systems	19
1.17	Preparation of Decommissioning Cost Estimate	19
1.18	Design of Decommissioning Work Breakdown Structure	20
1.19	Decommissioning Risk Assessment	20
1.20	Evaluating Residual Liability Issues in Decommissioning	20
2.0	LEGAL FRAMEWORK	20
2.1	National Legislation	20
2.2	Regional Obligations	21
2.3	International Obligations	21
3.0	SCOPE	22
3.1	Geographical boundaries	22
3.2	Applicability	22
3.3	Major Tasks	23
4.0	PROCESS	23
4.1	Cessation of Production (or Operation) COP(COO)	23
4.2	Preliminary Stakeholder Engagement Plan	23
4.3	Submission	24
4.4	Consent	24
4.5	D&R Safety Case Submission (applicable for structure only)	24

4.6	Implementation	25
4.7	Monitoring, Maintenance & Management	25
4.8	Closeout Report	25
5.0	INDUSTRY COOPERATION	25
6.0	TECHNICAL REQUIREMENTS FOR D&R IN BRUNEI DARUSSALAM	26
6.1	Technical Requirements	26
6.2	Onshore Decommissioning and Restoration	26
6.3	Offshore Decommissioning and Restoration	27
ANNEX ONE: OTHERS		28
ANNEX TWO: INTERNATIONAL OBLIGATIONS		28

1.0 GUIDANCE COVERAGE

The table below shows a mapping of the ASCOPE Decommissioning Guideline Technical Handbooks to Brunei Legal and Regulatory Framework. Though ASCOPE is focusing on Offshore Oil and Gas Facilities, it can also be used on Onshore Oil and Gas Facilities as applicable.

No.	ASCOPE Technical Handbook	Brunei Legal and Regulatory Consideration
1	Preparation of a Decommissioning Program for ASCOPE Region	COMAH Regulations; Guidelines
2	Work Breakdown Structure for use in Platform Decommissioning	COMAH Regulations; Guidelines
3	Cost Decommissioning Estimation Methodology	COMAH Regulations; Guidelines
4	Technical Methodology Statements	Guidelines
5	Identification, Treating, Storage & Disposal of Waste	EPMO; COMAH Regulations; Guidelines
6	Impact Assessment for use in Platform Decommissioning	EPMO; COMAH Regulations
7	Consultation Process with key stakeholders	COMAH Regulations; Guidelines
8	Preparation of Decommissioning Close Out Report	COMAH Regulations; Guidelines
9	Capture of Decommissioning Knowledge and Lessons Learned	Guidelines
10	Converting Offshore Facilities to Artificial Reefs	EPMO; COMAH Regulations; Guidelines
11	Life Extension Opportunities	Guidelines
12	Well P & A Planning & Execution	COMAH Regulations; Guidelines
13	Post Decommissioning Monitoring	Guidelines
14	Decommissioning of Pipelines	EPMO; Pipeline Safety Regulations (draft); Guidelines
15	Decommissioning of Subsea Systems	EPMO; COMAH Regulations; Guidelines

No.	ASCOPE Technical Handbook	Brunei Legal and Regulatory Consideration
16	Decommissioning of Floating Production Systems	EPMO; COMAH Regulations; Guidelines
17	Preparation of Decommissioning Cost Estimate	COMAH Regulations; Guidelines
18	Design of Decommissioning Work Breakdown Structure	COMAH Regulations; Guidelines
19	Decommissioning Risk Assessment	COMAH Regulations
20	Evaluating Residual Liability Issues in Decommissioning	Guidelines

1.1 Preparation of a Decommissioning Program For ASCOPE Region

Each Duty Holder is expected to prepare a relevant D&R Submission that covers all aspects of the processes, from the Cessation of Production (or Operation) of the fixed facility or part thereof, until the final declared state is achieved. This submission will also include any ongoing maintenance and monitoring requirements until a stable state is achieved at the location. The guideline cover the methodology used and Duty Holders should refer to the COMAH Regulations 11A, 16, Schedule 1A and Schedule 5.

Each Duty Holder should have a structured approach to safety management as a field enters its End of Field Life (EoFL) phase. This will become part of the submission by the Duty Holder, as part of the D&R Notification and D&R Safety Case under the COMAH Regulations.

A detailed selection process including clear project goals and values for the EoFL should be developed by the Duty Holder in consultation and agreement with the Authority.

1.2 Work Breakdown Structure for use in Platform Decommissioning

Duty Holders are advised to ensure that the methodology they propose for the D&R process, covers all relevant aspects of how the activities will be conducted, including stakeholders involved and that the processes are undertaken within their safety management system. The guidelines will cover the need to have a breakdown of work activities. Duty Holders should also refer to COMAH Regulations 11A, 16, Schedule 1A and Schedule 5.

As part of the decommissioning of facilities, Duty Holders should describe how they will safely deconstruct the facility or part thereof, and the methodology used to monitor what is left behind, to ensure the risk is as low as reasonably practicable

1.3 Cost Decommissioning Estimation Methodology

All Duty holders should provide cost estimation methodology on the D&R activities/project providing clear assumptions, basis and able to demonstrate cost effectiveness through benchmarking.

A D&R Submission should contain an estimate of the cost of the measures proposed, specify the times at or within which those measures are to be taken or make provision for determining those times, and, where an installation or pipeline (offshore) is to remain in position or be only partly removed, include provision for maintenance where necessary.

1.4 Technical Methodology Statements

All Duty Holders are advised to consider the guidance provided in this Guideline. Compliance to legislative requirements is advised when considering the various methodologies. The ASCOPE Guidelines also provide recommendations that may be considered. Duty Holders are reminded to consider best industry practices and be aligned with international standards and methodologies.

Each Duty Holder shall use the technical requirement as described in Section 6 of this Guideline, conduct a comparative assessment of a full range of options and justify the final declared state. The Duty Holders should also describe how they will decontaminate any facility or part thereof including the safe removal of hydrocarbons.

1.5 Identification, Treating, Storage & Disposal of Waste

Under the EPMO and the COMAH Regulations, all Duty Holders should have robust arrangements in place prior to commencement of any D&R activities. For any radioactive material, companies are advised to follow the Radiation Order.

Waste Treatment facilities are to adhere to the legislative requirements under Brunei Law. The Authority reserves the right to verify arrangements in place when considered necessary.

Particular emphasis should be given to the removal of:

- Mercury (and other heavy metals) in sludge
- Polychlorinated biphenyls (PCBs) in oils from capacitors, transformers and other electrical switchgear
- Hydrocarbon liquids / sludge and other hazardous materials
- Lubricating oils from rotating equipment (pumps, compressors etc)
- Asbestos containing materials in insulation, gaskets, packing, partition boards and cement roof sheets
- Pyrophoric iron scale in vessels and pipes, containing iron sulphides prone to spontaneous combustion (important to keep these wet)
- Low Specific Activity (LSA) contamination in scale and sludge, arising from Naturally Occurring Radioactive Material (NORM).

1.6 Impact Assessment for use in Platform Decommissioning

All Duty Holders should manage their activities in compliance to Brunei Law. In particular, under the COMAH Regulations and the EPMO; Duty Holders are expected to assess and undertake environmental screening to ensure any impacts on the environment are adequately managed. Records of impact assessments are to be maintained as company records. The Environmental Protection and Management Order 2016 stated that it shall be the duty of every person, who intends to carry out the prescribed activity as set out in Schedule 1, to submit a Written Notification to the Authority before he undertakes such prescribed activity. Please refer to Part III General Duty of Person and Prescribed Activities under Section 9 “Written notification for undertaking of prescribed activities”.

1.7 Consultation Process with key stakeholders

Under the COMAH Regulations, all Duty Holders shall adequately ensure that all relevant stakeholders within their organisations and external, are consulted on the impacts of the D&R processes. Duty Holders should refer to the COMAH Regulations 11A, 16, Schedule 1A and Schedule 5. Duty Holders should indicate time lines for consultation with external and internal stakeholders and this will be summarized in the D&R Submission and re-emphasized in the D&R Safety Case to be submitted to the Authority.

Early discussions between the Duty Holder and Authority will ensure that the Company takes timely action and that the D&R process is well understood. The Authority will involve other relevant Government agencies as necessary. This includes preparatory work.

Discussions should commence well ahead of forecast cessation of production (or operation). In the case of a large field with multiple facilities, this may be 2 (two) years or more in advance. The onus rests with the Duty Holder to initiate these discussions.

1.8 Preparation of Decommissioning Close Out Report

All Duty Holders involved in D&R activities where facilities or part thereof, are decommissioned and restoration shall submit a final Close Out Report of the activities within a year upon completion. Upon receiving, acceptance of the Close Out Report by the Authority will be communicated via email.

The Authority will issue a completion certificate upon acceptance of the D&R activities and receipt of all final close out report for the related facility/ cluster / group of facility / block / field from the Duty Holder. Duty Holders should refer to the COMAH Regulations 11A, 16, Schedule 1A and Schedule 5.

The Duty Holder shall implement arrangements for monitoring, maintenance and management of the decommissioned site and any remains of installations or pipelines that may exist. The scope and duration of the monitoring requirements will be agreed between the Duty Holder and Authority in consultation with other Government agencies and details will be included in the D&R Submission. These details should be included in the final close out report that is submitted to the Authority. This final close out report should take into account any comments from the Authority and be submitted upon completion of all the D&R activities, to the satisfaction of the Authorities.

In line with the Close Out report (including before, during & after video and/or photos) requirements, it will also be necessary to submit within it, a post-disposal report indicating how the disposal operation was carried out, any immediate consequences of the disposal that have been observed and confirmation that the disposal has been implemented in accordance with the terms of the D&R Submission.

1.9 Capture of Decommissioning Knowledge and Lessons Learned

All Duty Holders involved in D&R activities of their facilities or part thereof should prepare and submit a report on decommissioning experience gained and lessons learned. The Authority would look to utilise this information as industry best practice for the benefit of the country in future D&R activities. The "Learning from Experience" report is to be submitted by the Duty Holder with the close out report, discussed in subsection 1.8 above.

1.10 Converting Offshore Facilities to Artificial Reefs

As supported by the ASCOPE Guidelines, there are various methodologies that may be considered by Duty Holders, when considering options for the D&R process. Offshore structures maybe converted,

however they are required to comply with the EPMO and the COMAH Regulations. The Duty Holders should refer to the COMAH Regulations 11A, 16, Schedule 1A and Schedule 5. They are also obliged to consult with relevant government departments and seek the necessary acceptance for this concept selection. Environmental responsibilities are covered under the law and operators are reminded that compliance is mandatory. Industry best practices and international standards should be followed when considering any concept.

The Duty Holder should ascertain the risk posed and the hazard to navigation and his neighbours when considering this option. For any structure left, the Duty Holder will need to make arrangements to ensure that any obstructions to be left in place are suitably marked.

It is the Company's responsibility to ensure that at least 3 months advance notification of the change in status of decommissioned installations and pipelines is given to the Authority to enable it to inform other Government agencies in particular the Marine Department, Fisheries Department and Ministry of Primary Resources and Tourism.

In those cases where it is agreed that an installation, the 'footings' of a steel installation or a pipeline should remain in place, the Company must ensure that the position (horizontal datum to be stated), surveyed depth and dimensions of the remains and hydrographic are forwarded immediately to the Survey Department for inclusion on admiralty charts.

1.11 Life Extension Opportunities

In line with various concepts that Duty Holders may consider, when engaging with D&R activities for end of field life opportunities, they may consider life extension options as well. Duty Holders are reminded that with regards to all COMAH facilities and parts thereof, good maintenance and fit for purpose standards remain an obligation and the Authority expects all companies to manage this process. Alignment to industry best practices and international standards will provide justification on such concepts when considered and if selected. The guidelines will provide some information on life extension opportunities.

Where it is proposed that an installation and/or structure might be taken out of service and left in situ to undergo D&R at a later date, the Authority should be consulted well in advance of such a step being taken. For example, where a single installation in a multi-installation field becomes redundant and the proposal is that it should be left in place until end of field life, or possibly until a re-use opportunity emerges, it may be appropriate to deal with the situation in this manner. Fit for purpose maintenance of such installation or structure remain a legal obligation.

If it is agreed by the Authority that the D&R process may be delayed until a more appropriate time, the Authority will issue a formal letter setting out the conditions upon which it is prepared to defer until a specified date. The Authority may issue a direction to submit a D&R Submission. Compliance to COMAH Regulations remains mandatory.

1.12 Well P & A Planning & Execution

With due consideration that Brunei has a number of wells that are either in operation or in various stages of their life cycle, the Authority has provided guideline in terms of Well Plug and Abandon planning and execution methods. Duty Holders and well operators should adhere to the guidance provided herewith and industry practices should be aligned. Duty Holders must remain in compliance to the COMAH Regulations and other relevant written law in Brunei. They should refer to the COMAH Regulations 11A, 16, Schedule 1A and Schedule 5.

More details can be found in Chapter 5 of this Guideline.

1.13 Post Decommissioning Monitoring

Post D&R operations, all Duty Holders should ensure that the final declared state achieved for the facility or part thereof, does not undermine nor impact people, property or the environment. The Duty Holder should document and demonstrate the requirements of the post D&R operations monitoring that is to be undertaken based on the Duty Holder's risk assessment to the satisfaction and consideration of the Authority. The duration of such monitoring will be for an agreed term between the Duty Holder and Authority.

For any wells, pipelines and structures decommissioned in situ, depending on environmental sensitivity, will be subject to a suitable monitoring programme agreed with the Authorities. Details should be specified in the D&R Submission. The form and duration of the monitoring programme will depend upon the prevailing circumstances and, if necessary, be adapted with time. Inspection reports should be submitted to the Authority with proposals for any maintenance or remedial work that may be required.

In addition to debris surveys, a post-D&R environmental seabed or site sampling survey should be undertaken in particular to monitor levels of hydrocarbons, heavy metals and other contaminants in sediment and biota.

In each case, the Company will find it helpful to develop their survey strategy in consultation with the Authority who will take specialist advice from colleagues within other Government agencies. Details of the survey strategy should be included in the D&R Submission. The results of all surveys and a copy of a site or seabed clearance record should be submitted to the Authority.

1.14 Decommissioning of Pipelines

The Pipeline Safety Regulations currently in draft require for all pipelines that are considered to be decommissioned, to follow the regulatory requirements and Duty Holders shall submit a pipeline notification to the Authority on the D&R process followed from cessation of production (or operation) of the pipeline to the final declared state. The guideline will provide some information on pipeline decommissioning.

Onshore, redundant flow-lines and pipelines should be purged and flushed. Flow-lines and pipelines above ground are to be totally removed and the site shall undergo restoration.

Depending on individual circumstances, underground flow-lines and pipelines may be left in situ subject to conditions of the technical requirements and the acceptance of the Authorities. Specific consideration needs to be given to any residual site contamination (e.g. hydrocarbons in soil from past leaks and spills) from all redundant flow lines and pipelines. Visual inspection and soil sampling will generally be required for onshore sites to determine presence of contamination. This may require removal and treatment.

For offshore pipelines, following approach should be used:

- Use the technical requirement, conduct a comparative assessment of all feasible D&R options and justify the final declared state.
- Any removal or partial removal of a pipeline should be performed in such a way as to cause no significant adverse effects upon the marine environment and fishing;

- Any decision that a pipeline may be left in situ should have regard to the likely deterioration of the material involved and its present and possible future effect on the marine environment; and account should be taken of other uses of the sea.
- The Authority may impose further restriction if seen fit when leaving the pipeline line in situ.

1.15 Decommissioning of Subsea Systems

As supported by the ASCOPE Guidelines, Duty Holders are provided with recommendations that may be followed when decommissioning subsea structures and systems. Compliance to COMAH regulations remains an expectation. Duty Holders are obliged to consider industry best practices and international standards when selecting concepts for dealing with the D&R processes for any subsea structures and systems. The guidelines will provide information on processes that are recommended. Duty Holders should refer to the COMAH Regulations 11A, 16, Schedule 1A and Schedule 5. Duty Holders are reminded to duly consider all relevant written law in Brunei and adhere to all requirements, as stated.

Sub-sea installations include drilling templates, production manifolds, well heads, protective structures, anchor blocks and anchor points, anchor chains, risers and riser bases. Such installations may be completely or partially removed for reuse or recycling, final disposal on land or left in situ subject to final declared state.

1.16 Decommissioning of Floating Production Systems

Currently Brunei does not have any floating production systems other than Single Buoy Mooring (SBM) systems. As supported by the ASCOPE Guidelines, Duty Holders are provided with recommendations that may be followed when decommissioning subsea structures and systems. Compliance to COMAH Regulations remains an expectation. Duty Holders are obliged to consider industry best practices and international standards when selecting concepts for dealing with the D&R processes for any floating production systems. The guidelines will provide information on processes that are recommended. Duty Holders should refer to the COMAH Regulations 11A, 16, Schedule 1A and Schedule 5. Duty Holders are reminded to duly consider all relevant written law in Brunei and adhere to all requirements, as stated.

Floating installations will include Floating Production Facilities (FPFs) or Floating Production Systems (FPSs), Floating Production, Storage and Offtake vessels (FPSOs), Floating Storage Units (FSUs), and the above mentioned Single Buoy Mooring facilities (SBMs). At the end of field life such installations will be floated off location and re-used elsewhere as a production or storage facility. In those cases where re-use does not prove possible, it will be necessary to remove all structures and their accessories, return the facility to shore for storage or dismantling in line with the hierarchy of waste disposal options.

1.17 Preparation of Decommissioning Cost Estimate

All Duty Holders undertaking D&R activities are expected to prepare and be in a position to discuss with the Authority how they have justified cost expenditures relating to the D&R processes they propose to follow. Whilst being in compliance to the requirement of the EPMO and COMAH Regulations, the underlying fact remains that Duty Holders are responsible to follow industry best practices and be aligned with industry standards relevant to the D&R activities being undertaken. The Authority requires for all Duty Holders of COMAH facilities to be in a position to provide cost estimates for the full D&R process and provides actual financial costing as related to, during and post D&R activities for scrutiny by the Authority, and as be required. Duty Holders should also refer to COMAH Regulations 11A, 16, Schedule 1A and Schedule 5.

1.18 Design of Decommissioning Work Breakdown Structure

Duty Holders are required to ensure that the methodology they propose for the D&R process, covers all relevant aspects of how the activities will be conducted including design, stakeholder involvement and that the processes are undertaken and managed within their safety management system. The guidelines will cover the need to have a breakdown of work activities. Duty Holders should also refer to COMAH Regulations 11A, 16, Schedule 1A and Schedule 5. Planning, implementation and execution processes should be reviewed for providing assurances to the Authority that the D&R processes remain in compliance to the D&R Safety Case submission to the Authority.

1.19 Decommissioning Risk Assessment

Prior to commencement of any D&R activities at location, Duty Holders should ensure that robust assessments are prepared considering all the hazards and risks involved with the activities, including the mitigating control measures that are required to manage the operations to as low as reasonably practical. Duty Holders should also refer to COMAH Regulations 11A, 16, Schedule 1A and Schedule 5. They are responsible to follow industry best practices and be aligned with industry standards relevant to the D&R activities being undertaken when considering the hazards associated with D&R. It is recommended that the risk assessments consider all forms of socio-economic and environmental matters pertaining to the location and impacts on neighbours.

1.20 Evaluating Residual Liability Issues in Decommissioning

The D&R processes take into account that the Duty Holder should formally state the final declared state of the site, describing the methodology, and justifying the concept selected for D&R. The final declared state by the Duty Holder must be agreed with the Authority. Failure to achieve the final declared state will result in an agreed conditional agreement between the Authority and the Duty Holder concerned, to provide remedy for the situation and to mitigate any impact to people, property or the environment. Duty Holders are required to evaluate their liabilities from their actions and ensure that this evaluation is discussed and reported to the Authority prior to execution, during and post D&R processes on location, until the completion certificate is issued to the Duty Holder.

In general, if left in situ, residual liability would apply to the Duty Holder up until there is a transfer of ownership, in accordance to Terms and Conditions as agreed by relevant parties, or final declared state is achieved. This is applicable for structures and part thereof, pipelines and wells.

2.0 LEGAL FRAMEWORK

2.1 National Legislation

The Laws of Brunei Darussalam that are relevant to decommissioning and restoration of onshore and offshore structures and part thereof, wells and pipelines are listed in Chapter Order as follows;

- [1] Chapter 42: The Mining Act (Revised 1984)
- [2] Chapter 44: The Petroleum Mining Act (Revised 1984)
- [3] Chapter 45: The Petroleum (Pipe-Lines) Act (Revised 1963)
- [4] Chapter 138: The Territorial Waters of Brunei Act (Revised 2002)
- [5] Chapter 189: The Land Code (Strata) Act (Revised 2000)

However, the applicable D&R provisions for all relevant Duty Holders awarded by Brunei

Darussalam are contained with the Concession/ Blocks / License Holders specific agreements as defined by the Mining Act, (1984) and the Petroleum Mining Act, (1984). As the terms of these specific agreements are highly confidential they are excluded from the scope of this document and the applicable principles for decommissioning and restoration of onshore and offshore structures and part thereof, wells and pipelines as covered in this Guideline.

In addition to the above noted Laws of Brunei Darussalam, there are other additional Statutory instruments and guidelines applicable to D&R and these are listed by category as follows:

Workplace Safety & Health

[A] Workplace Safety & Health Order, (WSHO), (2009). (as amended)

[B] Workplace Safety and Health (Control of Major Accident Hazards) Regulations, (COMAH), (2013). (as amended)

[C] WSHO associated regulations

Environment

[D] Prevention of Pollution of the Sea Order, (2005).

[E] Prevention of Pollution Reporting Incidents, Regulations, (2008).

[F] Prevention of Pollution (Garbage) Regulation, (2008).

[G] Environmental Protection & Management Order, 2016; (EPMO).

[H] EPMO associated regulations.

Maritime Security

[J] Merchant Shipping Order, (2002).

[K] Merchant Shipping (Safety Convention), (Amendment) Regulation, (2004).

[L] Merchant Shipping (Safety Zones), (Amendment) Order, (2013).

The legislation and statutory instruments listed above are not exhaustive for all of the D&R activities expected to be undertaken in Brunei Darussalam.

It is expected that early consultation with the Authority, during the process of preparing the D&R Submission will ensure that all Duty Holders utilize the most recent and relevant National Legislation in any decision making process relating to D&R.

2.2 Regional Obligations

Brunei Darussalam is a Member State of the Association of South East Asian Nations, (ASEAN) and is also a signatory and contributor to the ASEAN Council on Petroleum: (ASCOPE) Decommissioning Guidelines, (ADG) for Oil & Gas Facilities; further details can be found in the (ASCOPE) Decommissioning Guidelines for Oil & Gas Facilities

In principle, the Authority will follow the ADG and consider other relevant guidelines developed within ASCOPE, where applicable.

2.3 International Obligations

There are four main international obligations that are relevant to D&R of onshore and/or offshore facilities and structures, including wells and pipelines in Brunei Darussalam;

[1] Brunei Darussalam is a Member State of the International Maritime Organisation (IMO) and has been since 1984. As such, the Brunei Government is obliged to follow the recommendations set out in 'The Guidelines and Standards for the removal of offshore installations and structures on the Continental Shelf and in the Exclusive Economic Zone', (1989).

The IMO Guidelines and standards provide that, in general, an abandoned or disused offshore installation or structure on a Continental Shelf or an Exclusive Economic Zone should be removed as soon as reasonably practical once it is no longer serving the prime purpose for which it was originally designated.

[2] Brunei Darussalam ratified the 'United Nations Convention on the Law of the Seas' (UNCLOS), (1982) in 1996. This agreement defines the rights and responsibilities of nations in their use of the world's oceans and seas; establishing Guidelines for maritime business, protection of the marine environment, management of marine natural resources and provision of a mechanism for the settling of maritime related disputes.

[3] Brunei Darussalam ratified the 'Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal', (1989) in 2002. This agreement regulates the shipment and disposal of hazardous wastes across international borders by the doctrine of prior informed consent between party states.

In order to protect human health and the environment, the Basel Convention requires all practical steps be taken to minimize generation of hazardous wastes and measures be in place to control hazardous wastes storage, transport, treatment, reuse, recycling, recovery and final disposal. Only if a State does not have the capability of managing or disposing the hazardous waste in an environmentally sound manner, should transboundary movement be considered.

[4] Brunei Darussalam ratified the 'Convention on Biological Diversity', (1993) in 2008. This agreement supports the conservation of biological diversity and its sustainable use along with the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

Details of these four main international obligations and how they apply to D&R in Brunei Darussalam are considered in ANNEX TWO, along with a current status of other conventions that Brunei Darussalam is signatory, not detailed in these technical and environmental Guidelines.

It is the intention that these technical and environmental guidelines, will be adopted as approved Code of Practice for D&R processes. The Guideline may be adapted by the Government, as necessary in line with any future changes in national legislation and government policy, aligned with regional guidelines and international obligations.

3.0 SCOPE

3.1 Geographical boundaries

This Guideline apply to the territory of Brunei Darussalam; onshore territorial lands and waterways, coastlines and offshore adjacent waters; specified as being between the low water landmark baseline and the seaward limits of the Exclusive Economic Zone; (EEZ), thereby including internal coastal waters, territorial waters and the contiguous zone.

3.2 Applicability

This Guideline shall apply to onshore and offshore facilities COMAH and associated activities, including and not limited to above and underground onshore structures, above and below sea level offshore structures, wells and pipelines in Brunei Darussalam from the date of issue.

3.3 Major Tasks

The D&R process commences at cessation of production (or operation), and involves the decommissioning and potential removal of offshore and onshore facilities or structures and part thereof, and includes depressurization, decontamination of vessels, piping, pipelines and process equipment as well as the clean-up and restoration of sites. The major tasks are not limited to:

- Downhole plug and abandonment of wells.
- Cleaning, purging and isolation of process equipment and piping of fluids and sludge.
- Treatment and/or disposal of process fluids and sludge.
- Removal of wastes and/or chemicals for disposal or re-use.
- Dismantling of wellheads, piping and plant facilities with re-usable items placed in laydown areas.
- Removal and cutting (if necessary for size reduction) of equipment and materials tagged for sale as scrap.
- Removal and cutting or sealing of contaminated equipment, tagged for disposal.
- Removal of transformers, instrumentation and electrical systems for reuse or disposal.
- Removal of structures, pads and foundations not destined for re-use.
- Isolation of underground piping, tanks and structures that are left in place.
- Removal of bridges, drainage culverts, roads and other civil works not needed for future access or erosion control.
- Installation of access controls and/or signposting (notification) for remaining structures.
- Clean up and restoration of sites.

4.0 PROCESS

The Duty Holder will be accountable for ensuring that the process leading to the acceptance of a D&R Submission and implementation is effectively followed at all times.

4.1 Cessation of Production (or Operation) COP(COO)

When the Duty Holders are ready to execute the D&R activity, it is the responsibility of the Duty Holder to get consent from the Authority for declaration of COP (COO) within the recommended period as highlighted in the respective chapters.

This is done through a process, which includes formal engagements with the Authority. During these engagements, the Duty Holder shall provide justification and supporting documentation.

The Duty Holder should propose the boundary condition that may consist of a facility/ cluster / group of facility / block / field for discussion with the Authority.

The detailed process are in the respective chapters.

4.2 Preliminary Stakeholder Engagement Plan

Prior to any D&R submission, Duty Holder shall submit a preliminary stakeholder engagement plan to the Authority for consultation. The objective of this stage is to ensure that relevant stakeholders associated with that particular D&R activity are timely consulted.

The Duty Holder shall then conduct stakeholder engagements with relevant stakeholders as per the stakeholder engagement plan.

4.3 Submission

Upon receipt of the Consent of COP (COO) from the Authority, the Duty Holder shall submit the D&R Submission as per this Guideline. A D&R Submission may consist of a single or multiple components of onshore and offshore structures and part thereof, wells, piping and pipelines that are included within a Concession / Block. The boundary conditions of the D&R Submission should be agreed by the Authority.

It shall be submitted to the Authority in electronic form along with two hard copies.

For structure and part thereof or/ and pipeline, the D&R Submission consists of;

- D&R Programme as per Annexes in the respective chapters.
- Pipeline Notification (applicable for Pipelines only).
- D&R Notification (assessment matrix as per COMAH Regulations with reference to D&R Submission).
- Written Notification of Prescribed Activity (as per EPMO).
- Other relevant documentation, as advised by the Authority.

For Well Plug and Abandonment (P&A) submission, refer Chapter 5 of this Guideline.

The detailed requirements are in the respective chapters.

4.4 Consent

Upon receipt of the D&R Submission of a structure and part thereof or/ and pipeline, the review panel that consists of various government agencies will collectively assess the D&R Submission and will respond to the Duty Holder not more than 3 months from the date of submission. The Ministry of Energy and Industry is the focal point for this process.

Should there be any changes to the accepted D&R Submission, the Duty Holder should ensure that the ministerial bodies are kept fully apprised of the proposed date of commencement of D&R activities, so that any potential alterations to the accepted submission can be considered along with their implications in a timely manner. This include material changes to the D&R Notification under the COMAH Regulations as well as amendments to other notifications and D&R Safety Case.

For Well Plug and Abandonment (P&A) submission, refer Chapter 5 of this Guideline.

The detailed acceptance process is in the respective chapters.

4.5 D&R Safety Case Submission (applicable for structure only)

Upon acceptance of the D&R Submission of any structure, the Duty Holder shall submit the D&R Safety Case, prior to commencement of any physical D&R activities, as per the COMAH Regulation to the Authority. If the D&R Safety Case meets the relevant requirements of the COMAH Regulations, the Authority will issue a D&R Safety Case Certificate to the Duty Holder. Based on the receipt of this certificate, the Duty Holder is obliged to commence D&R activities as stipulated in the safety case, and in full compliance to relevant law.

The Authority remains open to dialogue with the Duty Holder at all times during the execution of the D&R Submission under the D&R Safety Case, especially where there is a risk of deviation from the requirements of the accepted D&R Submission, which may result in unexpected challenges arising during the discharge of the Duty Holder's obligations.

In the unlikely event, that such a situation does occur, the Duty Holder shall submit a Material Change to the Authority, and be responsible for undertaking appropriate remedial actions to resolve the issue. Ensuring, that the considered approach provides for a proper regard for the principles of safety of people, property, environment and all associated socio-economic concerns.

4.6 Implementation

The Duty Holder is responsible to implement the D&R activities as per the accepted D&R Submission. The Duty Holder should regularly engage the Authority on the progress of the implementation of D&R Submission as and when required. For the avoidance of doubt, the Authority expects that the Duty Holder should undertake the D&R Submission efficiently, effectively and without delay. If there are any justifiable reasons for delaying or deferring the D&R activity of the associated onshore or offshore structures and part thereof, including wells and pipelines, the Authority must be informed as early as reasonably practicable with adequate justification warranty the delay.

4.7 Monitoring, Maintenance & Management

Monitoring, maintenance and management of the decommissioned site and any remains shall be undertaken in line with the scope and duration requirements related to these activities as applicable to each individual Concession / Blocks agreement and in full compliance to relevant written law.

The successful completion of the D&R activities as per accepted D&R Submission should be reported to the Authority in the context of managing concerns arising from implementation of the D&R Submission, with all relevant details captured in the final closeout report.

4.8 Closeout Report

The Duty Holder shall submit the D&R Closeout Report to the Authority within specific duration as specified in the respective chapters after the completion of the D&R activities for any structure and part thereof, well and pipeline. Acceptance of the Closeout Report will be communicated by the Authority via email.

Upon acceptance of all Closeout Reports of the D&R activities of all elements in a facility / cluster / group of facility / block / field, whether structures and part thereof, pipelines and wells, the Authority will issue a D&R Completion Certificate which confirms that the Duty Holder has effectively completed D&R activity as per D&R Safety Case submission.

The Duty Holder should include all D&R knowledge, best practices and lessons learnt during the various phases of the D&R processes. The details can be found in the respective chapters.

5.0 INDUSTRY COOPERATION

The Government would like to encourage industry cooperation and collaboration during the D&R of oil and gas wells, facilities & infrastructure in Brunei Darussalam.

This may range from a Government approved general exchange of information where permissible between Duty Holders to a more structured collaboration on specific D&R projects, where the Authority will act as a facilitator.

The Authority also encourages cooperation and collaboration between intra-industry interests in an effort to initiate some innovative and creative thinking around the issues affecting D&R processes on an intra-industrial scale. This however, is based on industry best practices and international standards that may apply to D&R and location specific considerations.

6.0 TECHNICAL REQUIREMENTS FOR D&R IN BRUNEI DARUSSALAM

6.1 Technical Requirements

This section provides technical requirements for D&R activities in Brunei Darussalam. Having this will provide a consistent approach on D&R solutions. The Duty Holder shall use this technical requirements, conduct a comparative assessment and justify the final declared state. Output will be the final declared state.

The Governments' vision remains that all assets are free of hazardous substances and in principle removed from site when achieving their final declared state as per the COMAH Regulations (Amendment) 2017.

It is proposed that all decommissioning and restoration discussions will be between duty holders and Authorities, with an appeals procedure, in line with the present safety and health laws, directed to the Minister, whose decision is final.

The Ministry of Energy and Industry will take the lead on developing and coordinating this process of review and agreement.

6.2 Onshore Decommissioning and Restoration

In principle, all onshore facilities or part thereof are required to be made hazardous substance free, removed and the site restored.

- Onshore facilities or part thereof above ground are required to be removed.
- Onshore facilities or part thereof below ground to be removed based on final declared state and industry best practice.
- All surface pipelines that have or presently contains hazardous substance are required to be made hazardous substance free, removed and the site restored.
- All subsurface pipelines that have or presently contain hazardous substance are required to be made hazardous substance free and the D&R solution will be assessed on a case by case based on comparative assessment and final declared state.
- The Duty Holder is to engage Authority if subsurface pipelines meet any of the conditions;
 - in the vicinity of residential properties
 - in areas declared for residential or commercial development
 - within eco sensitive areas
 - in the vicinity of schools or hospitals
 - traverse inland waterways, riverine or water masses under water or buried below the water mass
 - cross the international border

- For any assets that are not covered by the above conditions, the Duty Holder is to identify these and then report to the Authority

6.3 Offshore Decommissioning and Restoration

- Offshore structures and part thereof are required to be made hazardous substance free, removed and the site restored. Structures and part thereof that are beyond 55m water depth will be assessed on a case by case based on comparative assessment and final declared state.
- Duty Holder is to discuss with the Authority if facilities or part thereof are close to the international border or within declared sensitive areas
- For pipelines coming onshore that in the past have or presently contain hazardous substances are to be made hazardous substance free and removed from the shoreline up to the Lowest Astronomical Tide (LAT) or up to 150m from the shoreline whichever is the furthest
- From the LAT or 150m from the shoreline onwards, all pipelines that in the past have or presently contain hazardous substances are to be made hazardous substance free, case by case basis based on comparative assessment and final declared state.

ANNEX ONE: OTHERS

Additional recommendation on legislation and obligation from AUTHORITIES, but are not limited to;

[1] Hazardous Waste (Control of Export, Import and Transit) Order, 2013 (and / or any regulations made thereunder)

[2] S125 Prevention of Pollution the Sea (Compoundable Offences) Regulation, 2008

[3] Chapter 41: Land Code

[4] Town and County Planning Order, 2015

[5] ASEAN Working Group on Chemicals and Waste

The working group was established to serve as a consultative platform among ASEAN Member States to further strengthen regional coordination and cooperation in addressing chemicals related issues under relevant multilateral environmental agreements such as Basel Convention, Rotterdam Convention, Stockholm Convention and Minamata Convention, as well as internationally agreed-upon systems such as Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

[6] ASEAN Joint Declaration on Hazardous Chemicals and Waste Management 2016, which articulated ASEAN's concern and commitment to addressing hazardous chemicals and waste management issues in the region

ANNEX TWO: INTERNATIONAL OBLIGATIONS

[1] Brunei Darussalam is a Member State of the International Maritime Organisation, (IMO) and has been since 1984.

IMO was established in Geneva in 1948 and came into force ten years later as a specialized agency of the United Nations with 169 Member States and three Associate Members.

The primary purpose of IMO is to develop and maintain a comprehensive regulatory framework for shipping and its remit today includes safety, environmental concerns, legal matters, technical co-operation, maritime security and the efficiency of shipping.

IMO guides the regulatory development of member states to improve safety at sea (including safe navigation), facilitate trade and protect the environment.

Early environmental concerns were around oil pollution from tanker operations, machinery space drainage and anti-fouling coatings. These have grown into wider aspects such as energy efficiency and acidification; 23 of the IMO's 51 legal instruments are environment related.

'The International Convention for the Prevention of Marine Pollution from Ships' 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), entered into force on 2 October 1983 (Annexes I and II) includes regulations aimed at preventing and minimizing pollution from ships.

IMO's 'Guidelines & Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone' were adopted in 1989. They stem from Article 60 of UNCLOS 1982 and state that abandoned or disused offshore installations or structures on any continental shelf or in any exclusive economic zone are required to be removed, except where non-removal or partial removal is consistent with the stated Guidelines and standards.

The Guidelines also state that the any decisions for non-removal must be made on a case by case basis taking into account at least the following requirements;

- Complete removal of all structures in <75m of water and <4,000 tonnes in air, excluding deck and superstructure;
- Complete removal of all structures emplaced on the sea-bed after 1/1/1998, in less than 100 m of water and weighing < 4,000 tonnes in air, excluding the deck and superstructure;
- Removal should cause no significant adverse effects on navigation or the marine environment;
- Any structure projecting above the surface of the sea should be adequately maintained to prevent structural failure. In cases of partial removal, an unobstructed water column sufficient to ensure safety of navigation, but not less than 55 m, should be provided above any partially removed installation or structure which does not project above the surface of the sea;
- Where living resources can be enhanced by the placement on the sea-bed of material from removed installations or structures (e.g. to create an artificial reef), such material should be located well away from customary traffic lanes, taking into account relevant standards;
- After 1/1/1998, no installation should be installed unless the design and construction is such that entire removal upon abandonment would be feasible.

[2] Brunei Darussalam ratified the 'United Nations Convention on the Law of the Seas' (UNCLOS), (1982).

Brunei Darussalam ratified 'The United Nations Convention on the Law of the Sea' (UNCLOS) 1982 which defines the rights and responsibilities of nations in their use of the world's oceans, establishing Guidelines for businesses, the environment, and the management of marine natural resources. To date, 118 countries and the European Community have joined in the Convention.

The Convention came into force on 16 November 1994, one year after it received its 60th ratification accession and introduced a number of provisions. The most significant issues covered were setting limits, navigation, archipelagic status and transit regimes, Exclusive Economic Zones (EEZs), continental shelf jurisdiction, deep seabed mining, the exploitation regime, protection of the marine environment, scientific research, and settlement of disputes. In accordance with article 311 of the Convention, it prevails over the Geneva Convention 1958 by countries which have ratified it.

The UN aims to help States understand and implement the Convention to utilise their marine resources in an environment relatively free of conflict and conducive to development, safeguarding the rule of law in the oceans.

In this context, the Division for Ocean Affairs and the Law of the Sea (DOALOS) of the United Nations Office of Legal Affairs helps to coordinate the organisation's activities and programmes in the area of marine affairs. It is active in assisting and advising States in the integration of the marine sector in their development planning.

Article 196 requires states to take all measures necessary to prevent, reduce and control pollution of the marine environment from the use of technologies under their jurisdiction.

Article 208 requires coastal states to adopt laws and regulations to prevent, reduce and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction and from artificial islands, installations and structures under their jurisdiction.

Article 210 requires consultation with other States if they might be affected.

“5. Dumping within the territorial sea and the exclusive economic zone or onto the continental shelf shall not be carried out without the express prior approval of the coastal State, which has the right to permit, regulate and control such dumping after due consideration of the matter with other States which by reason of their geographical situation may be adversely affected thereby”

Wastes derived from the exploration and exploitation of sea-bed mineral resources are, however, excluded from the definition. The provision of the Convention does not apply when it is necessary to secure the safety of human life or of vessels in cases of force majeure.

Annexes list wastes which cannot be dumped and others for which a special dumping permit is required. These include *“4. Vessels and platforms or other man-made structures at sea.”*

The criteria governing the issuing of these permits are laid down in a third Annex which deals with the nature of the waste material, the characteristics of the dumping site and method of disposal. Guidelines are available for the assessment of wastes or other matter that may be considered for dumping and in relation to D&R there are specific Guidelines for assessment of platforms or other man-made structures at sea.

UNCLOS does not explicitly address pipelines. However, international prevailing practice is that pipelines are generally left in place if they are unlikely to cause a hazard.

[3] Brunei Darussalam ratified the ‘Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal’, (1989) in 1996.

Most international waste legislation is aimed at preventing environmental and other hazards from the movement of hazardous wastes, particularly to countries which may be less well equipped with laws or infrastructure to manage those hazards.

During the late 1980s, a tightening of environmental regulations in industrialized countries led to a dramatic rise in the cost of hazardous waste disposal and exports to less developed countries increased.

This international concern led to the drafting and adoption of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

The Convention regulates the international shipment and disposal of hazardous wastes in order to reduce their impact on the environment and consequently ensure the protection of human health. It developed a framework for controlling the transboundary movements of hazardous wastes; that is, the movement of hazardous wastes across international frontiers.

It also established criteria for ‘environmentally sound management’, thereby ensuring that the export or import of hazardous wastes or other wastes to or from a party or non-party state without a license is prohibited.

Therefore, under the Convention, wastes can only be exported if both the state of import and export have given their consent in writing to the import (effectively being the doctrine of prior informed consent). Information about proposed transboundary movements must be communicated to the States concerned to enable them to evaluate the effects of the proposed movements on health and the

environment. Transboundary movements of wastes is only authorised by States where there is no danger attaching to their movement and disposal.

[4] Brunei Darussalam ratified the 'Convention on Biological Diversity', (1993) in 2008.

The Convention states that each State or Contracting Party has, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of areas beyond the limits of their national jurisdiction.

The objectives of the Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

This includes appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.

In ratifying the Convention, each State or Contracting Party shall, in accordance with its particular conditions and capabilities, develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in this Convention relevant to the Contracting Party concerned.

Each State or Contracting Party shall also integrate, as far as reasonably practicable and as appropriate, the conservation and sustainable use of biological diversity into relevant sectorial or cross-sectorial plans, programmes and policies.

THIS PAGE IS
INTENTIONALLY BLANK