CNR International

BANFF & KYLE DECOMMISSIONING PROJECT

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Report - Banff and Kyle Decommissioning EIA Scoping Letter

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1 INTRODUCTION

Canadian Natural Resources International (UK) Limited (CNRI) and Teekay Petrojarl Floating Production UK Limited (Teekay) are currently considering a decommissioning strategy for the Banff and Kyle Fields infrastructure and the environmental and societal impacts associated with this work. Both Fields produced via the leased Petrojarl Banff Floating Production Storage and Offloading vessel (FPSO) and the Apollo Spirit Floating Storage and Offloading vessel (FSO). The FPSO, FSO and associated risers were subject to a separate combined Decommissioning Programme (DP) (DP/163/19) in Phase 1 of the decommissioning strategy and are independent of the remaining infrastructure to be decommissioned.

Phases 2 and 3 of this decommissioning strategy incorporate the decommissioning of the subsea structures and pipelines (Phase 2) and any aspects of well decommissioning (Phase 3) which need to be considered outwith the environmental permitting process. Environmental and societal impacts will be considered as part of further DPs, split out by subsea installation removal and pipelines, and as part of this process we would like to engage any interested parties at this stage for comment.

This scoping letter aims to:

- Give an overview of the Banff and Kyle Fields and associated subsea infrastructure associated with Phases 2 and 3 of the decommissioning strategy, within the environmental and societal setting of the Central North Sea (CNS) region of the UK Continental Shelf (UKCS);
- Provide an indication of environmental and societal aspects which CNRI and Teekay believe may be screened out from further in-depth assessment due to the negligible risk posed; and
- Provide an initial insight into any perceived impacts which may potentially arise as a result of decommissioning activities and any associated controls and / or mitigation which CNRI and Teekay propose to help minimise the scale of any perceived impact.

The layout of the Banff and Kyle Fields is illustrated in Figure 1-1. The assets to be decommissioned consist of a series of subsea installations, associated pipelines and umbilicals.

The Banff Field is located in UKCS Blocks 29/2a and 22/27a in the CNS due east of Aberdeen and 191 km from the nearest point of land. It is located in water of a depth of approximately 95 m. The Kyle Field is located in UKCS Blocks 29/2c and 29/2h in the CNS some also due east of Aberdeen, and 192 km from land, in approximately 90 m water depth (Figure 1-2). There is one drill centre in the Banff Field and two drill centres for the Kyle Field – North Kyle and South Kyle. There is approximately 3 km between the North and South Kyle drill centres. A disconnected pipeline and umbilical also linked the Curlew Field (~2 km south of the Kyle Field) to South Kyle and as such is also part of this decommissioning scope.

Prior to cessation of production (CoP) and float-off, both Fields produced via the leased Petrojarl Banff FPSO and the Apollo Spirit FSO. Produced gas was exported from the Petrojarl Banff FPSO via the Central Area Transmission System (CATS) pipeline to the Central Area Transmission System (CATS) Terminal in Seal Sands, Teesmouth.

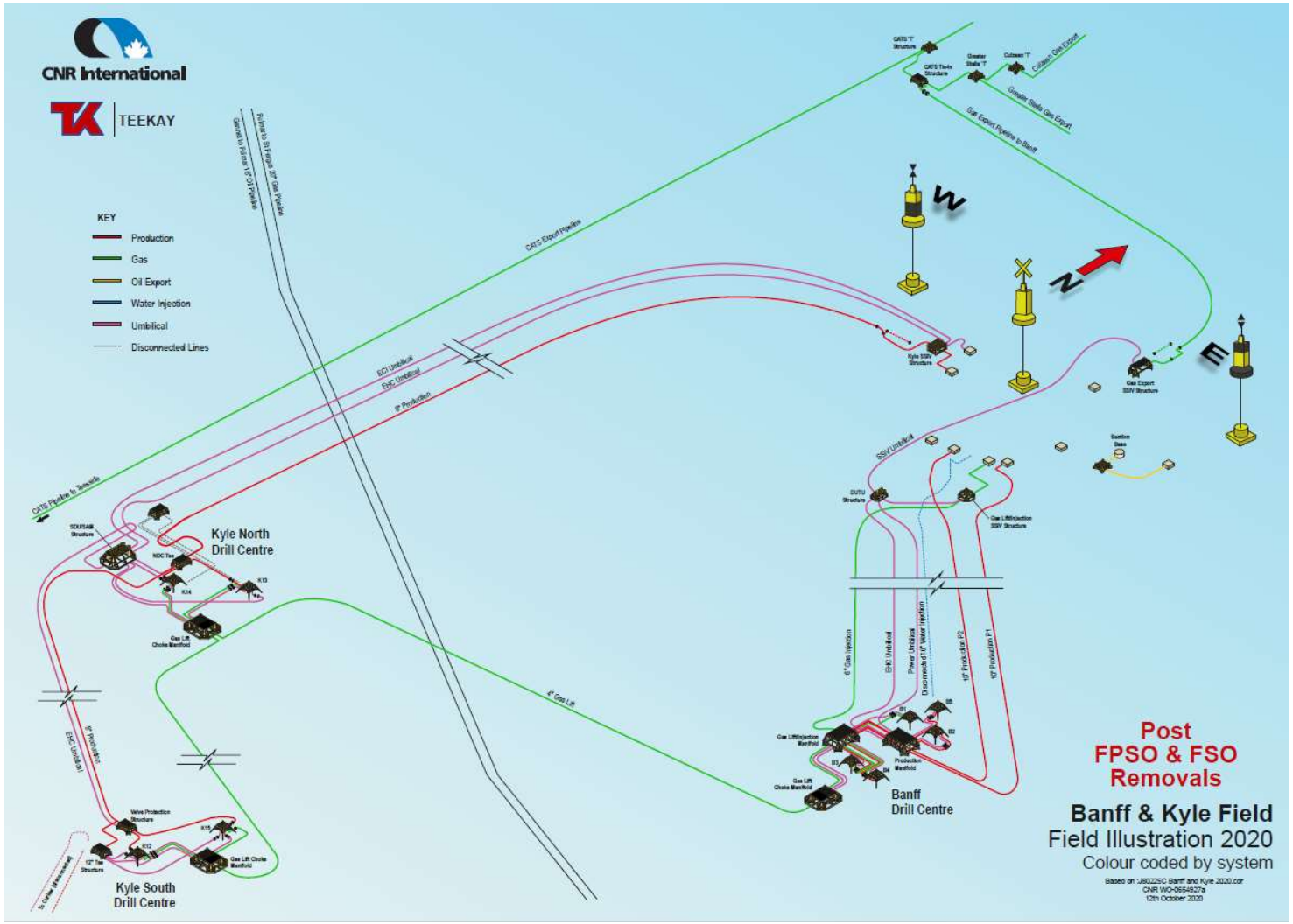

Figure 1-1 Schematic of the Banff and Kyle Field

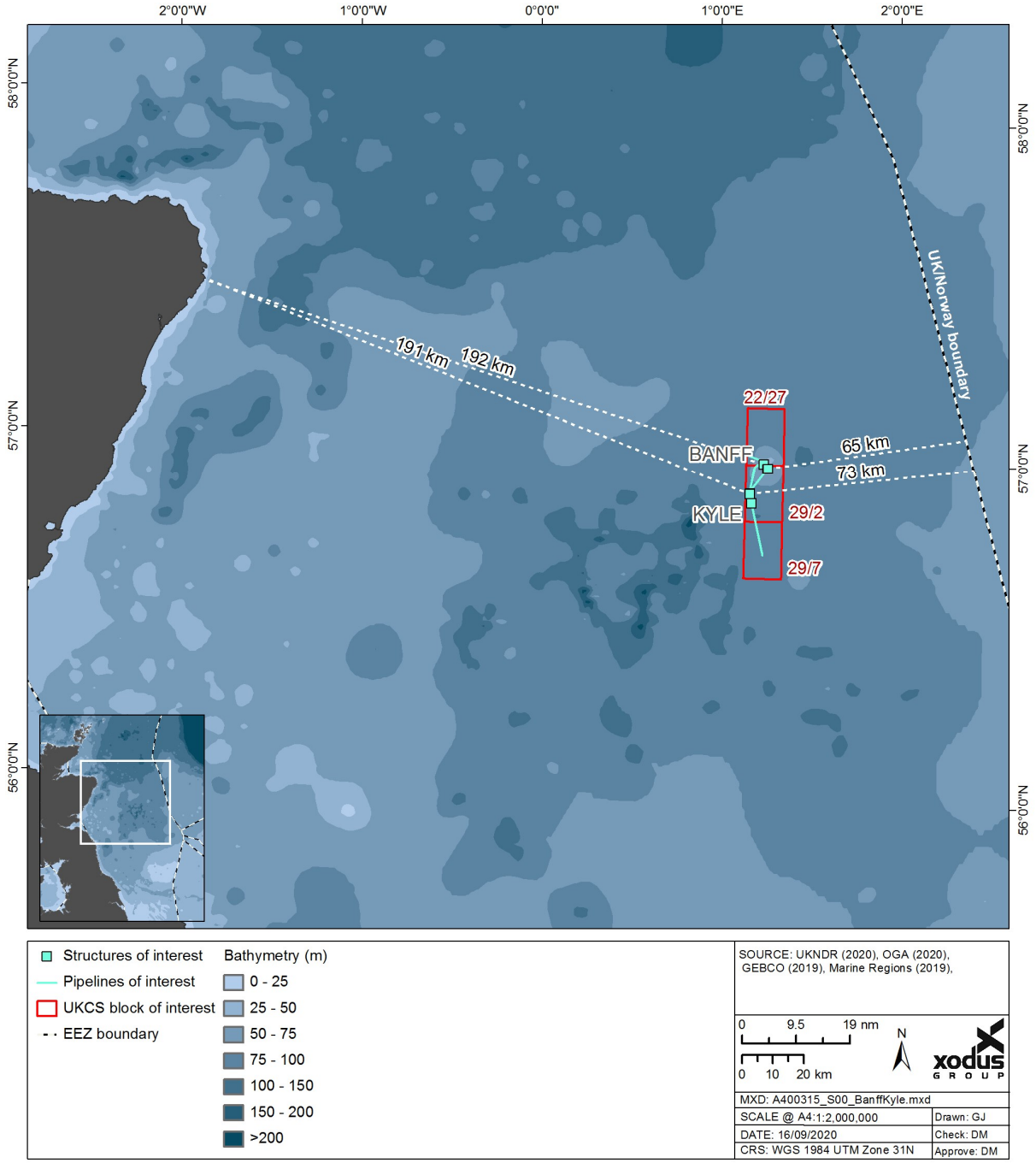

Figure 1-2 Location of the Banff and Kyle Fields in the CNS

2 LEGISLATION

The decommissioning of offshore oil and gas infrastructure on the UKCS is principally governed by the Petroleum Act 1998, as amended by the Energy Act 2008. Decommissioning is also regulated under the Marine and Coastal Access Act 2009 and Marine (Scotland) Act 2010.

The Petroleum Act sets out the requirements for a formal DP before the owners of an offshore installation or pipeline may proceed. The responsibility for ensuring that the requirements of the Petroleum Act 1998 are complied with rests with the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) which sits within the Department for Business, Energy and Industrial Strategy (BEIS).

At present there is no statutory requirement to prepare an Environmental Statement (ES) for decommissioning. However, under the OPRED Guidance Notes, Decommissioning of Offshore Oil and Gas Installations and Pipelines under the Petroleum Act 1998, the DP should be supported by an Environmental Appraisal (EA).

The guidance notes set out a framework for the required environmental inputs and deliverables throughout the approval process. The guidance outlines that an EA should be a document providing necessary content in proportion to the complexity and magnitude of a project. DECOM North Sea's (Decom North Sea, 2018) Environmental Appraisal Guidelines for Offshore Oil and Gas Decommissioning provide further definition on the requirements of EA Reports.

CNRI and Teekay will use a risk assessment process in line with the Offshore Petroleum Production and Pipelines (Assessment of Environmental Effects) Regulations 1999 (as amended), to assess the potential environmental impact of the decommissioning activities.

The National Marine Plan has been adopted by the Scottish Government to help ensure sustainable development of Scottish sector of the UKCS. This plan has been developed in line with UK and European Union (EU) legislation and international agreements under the Oslo Paris Convention (OSPAR). With regards to decommissioning, the plan states that 'where re-use of oil and gas infrastructure is not practicable, either as part of oil and gas activity or by other sectors such as carbon capture and storage, decommissioning must take place in line with standard practice, and as allowed by international obligations. Re-use or removal of decommissioned assets from the seabed will be fully supported where practicable and adhering to relevant regulatory process'. CNRI and Teekay will ensure activities are considered in line with the key objectives of the National Marine Plan during the project decision making process.

3 DECOMMISSIONING SCOPE

The geographical extent of the infrastructure associated with the decommissioning scopes is shown in Figure 1-1 and Figure 1-2. The key components of each Field are provided below in Table 3-1. Where the proposed decommissioning strategy states the item is subject to a full Comparative Assessment (CA), the CA process will determine the optimal decommissioning process for an item / group of items. A number of decommissioning options have been identified and will be screened based on feasibility and subsequently assessed against technical, safety, environmental, societal and economic performance.

The CA process involves a multi-disciplinary workshop where the options are discussed and assessed in detail using a series of likelihood and consequence matrices considering both qualitative and quantitative attributes. The emerging trends are further sensitivity tested to ensure that there are no artificial drivers forcing the recommendations. The EA then focusses on the preferred option. All aspects which have been screened out throughout the assessment process will be described and the justifications for this decision will be summarised in the EA.

Table 3-1 Infrastructure Details for the Banff and Kyle Decommissioning

Infrastructure		Description		Proposed Strategy
Pipelines	Rigid, trenched and buried*	8 pipelines (Approximate total pipeline length of 49,004 m)		Subject to full CA
	Flexible, trenched and buried	6 pipelines (Approximate total pipeline length of 36,873 m)		
	Surface laid, flexible	1 umbilical (Approximate total pipeline length of 1,600 m)		
	Rigid, trenched and rock covered	2 pipelines (Approximate total pipeline length of 9,557 m)		
	Spools and Jumpers	13 Spools, 5 Jumpers @ Kyle North 10 Spools, 3 Jumpers @ Kyle South 13 Spools @ Banff 63 other spools / jumpers across both Fields		Full removal
* one of these rigid pipelines may be surface laid				
Structures	Kyle North	Subsea Distribution Unit (SDU) Structure	9m x 8m x 1.9 m	Full removal
		Gas Lift / Choke Manifold	13 mx 11 m x 3.7 m	
		North Drill Centre Valve Structure	10 m x 8 m x 2.4 m	
		Kyle Subsea Isolation Valve (SSIV) Structure	6 m x 7.5 m x 3.2 m	
		Kyle Production Riser Base	8 m x 8 m x 3.2 m	
		Kyle Umbilical Riser Base	8 m x 8 m x 3.2 m	
		Wellhead Protection Structure (WHPS) @ Well K14	5.3 m x 5.3 m x 5.2 m	
		WHPS @ Well K13	5.3 m x 5.3 m x 5.2 m	
		Disconnected SDU/SAM Structure	7.6 m x 6.8 m x 1.8 m	
		Abandoned Guide Base in between K13, K14 and Gas Lift / Choke Manifold	2.9 m x 2.9 m x 3 m	
	Kyle South	12" Tee Structure	11.8 m x 8.8 m x 2.2 m	
		Gas Lift/ Choke Manifold	13 m x 11 m x 3.7 m	

Infrastructure		Description		Proposed Strategy
		South Drill Centre Valve Structure	10 m x 8 m x 2.4 m	Full removal
		WHPS @ Well K12	5.3 m x 5.3 m x 5.2 m	
		WHPS @ Well K15	5.3 m x 5.3 m x 5.2 m	
	Banff	Banff Gas Lift / Injection Manifold	18 m x 14 m x 4.8 m	
		Banff Gas Lift SSIV Structure	8.7 m x 8.3 m x 3.4 m	
		Banff Production Manifold	18 m x 16 m x 5.2 m	
		Gas Lift / Choke Manifold	13 m x 11 m x 3.7 m	
		Banff Dynamic Umbilical Termination Unit (DUTU) Structure	7.5 m x 5.5 m x 2.9 m	
		P1 Production Riser Base	8.7 m x 4.5 m x 4.3 m	
		P2 Production Riser Base	8.7 m x 4.5 m x 4.3 m	
		Gas Lift/ Injection Riser Base	8.65 m x 4.5 m x 4.3 m	
		Oil Export Tether Base	6 m x 6 m x 3.2 m	
		Oil Export Riser Base	8.7 m x 8.7 m x 4.3 m	
		Suction Base (SAL Anchor Base)	9 m x 9 m x 11 m (5.7 m)	
		Single Anchor Loading (SAL) / Pipeline End Manifold (PLEM) Tee	3 m x 3.1 m x 1.7 m	
		Banff Umbilical Tether Base	6 m x 6 m x 3.2 m	
		WHPS @ Well B1	5.3 m x 5.3 m x 5.2 m	
		WHPS @ Well B2	5.3 m x 5.3 m x 5.2 m	
		WHPS @ Well B3	5.3 m x 5.3 m x 5.2 m	
		WHPS @ Well B4	5.3 m x 5.3 m x 5.2 m	
		WHPS @ Well B5	5.3 m x 5.3 m x 5.2 m	
	Central Area Transmissions System (CATS) Pipeline	Pipework within Gas Export SSIV Structure	10 m x 5.5 m x 3.9 m	
		Pipework within CATS Pipeline Tie-in Structure	15 m x 9 m x 3 m	
		Pipework within Gas Export Tether Base	6 m x 6 m x 3.2 m	
Protection materials	Mattresses	1,011 mattresses (mostly of dimensions 6m x 3m x 0.15m)		Full removal
	Grout bags	Approximately 2,000 25 kg grout bags		

4 ENVIRONMENTAL AND SOCIAL SENSITIVITIES

The environmental baseline prepared to support the EA (Table 4-1) outlines key local receptors which may be impacted by the proposed activities. This summary is also based on environmental data CNRI and Teekay have collated during a pre-decommissioning habitat and environmental baseline surveys of the Banff and Kyle Field locations (Fugro 2020a, 2020b, 2020c). The environmental setting of the Banff and Kyle subsea infrastructure is shown in Figure 4-1.

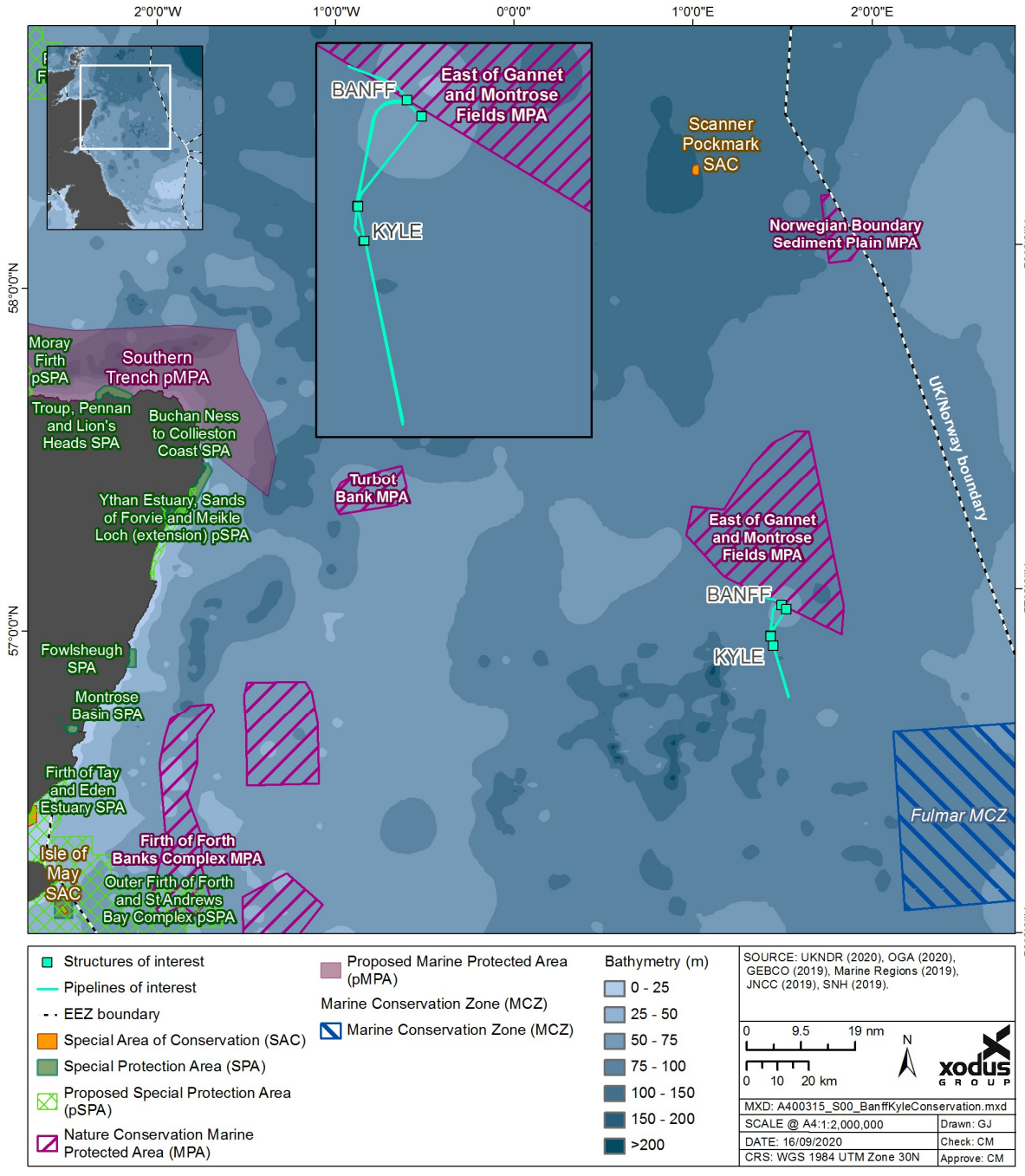

Figure 4-1 Conservation areas proximal to the Banff and Kyle Fields

Table 4-1 Summary of Environmental and Societal Receptors

Environmental Receptor	Description
Conservation Interests	
OSPAR (2008) List of Threatened and / or Declining Species and Habitats	
Ocean quahog	No adult ocean quahog (*A. islandica*, >1 cm) were recovered within either of the Banff or Kyle surveyed areas. Furthermore, the presence of ocean quahog siphons was not observed in any of the survey footage (Fugro, 2020a, 2020b). However, the species and its associated habitat is one of the reasons for the designation of the East of Gannet and Montrose Fields NCMPA, within which the Banff Field is partially located.
Seapens and burrowing megafauna communities	This habitat was present within both the Banff and Kyle Fields. According to the SACFOR classification, the seapen *P. phosphorea* ranged from 'occasional' to 'common' during the Banff survey. *V. mirabilis* was 'frequent' at one station and 'absent' at all others. Faunal burrows between 3-15 cm were either 'frequent' or 'common' at the four sites where they were present (Fugro, 2020a). Faunal burrows sized 3-15 cm were considered either 'common' or 'frequent' at all Kyle North sites. At Kyle South the SACFOR classification of faunal burrows was 'common' at all but one site which was considered 'abundant'. Burrows >15 cm were 'absent' at all stations and 'frequent' along both visual transects (Fugro, 2020b).
Other conservation interests	
Annex I habitats	No Annex I Habitats were identified in any of the site-specific surveys.
Conservation Sites (see Figure 4-1)	
SACs	The nearest SAC is the Scanner Pockmark SAC (~140 km north of Banff and ~151 km from Kyle). It is designated for the presence of Annex I feature 'Submarine structures made by leaking gases'.
NCMPAs	The Banff Field is partly located within the East of Gannet and Montrose Fields NCMPA. The site is ~10 km due north of the Kyle Field. The site is designated for the protection of ocean quahog aggregations and deep-sea muds.
MCZ	The Fulmar MCZ is located ~50 km southeast of the Kyle Field (and ~60 km from the Banff Field). The site is designated for Subtidal mixed sediments, Subtidal sand, Subtidal mud and ocean quahog aggregations.
Conservation Species	
Coastal and Offshore Annex II species most likely to be present in the project area	
Pinnipeds – grey and harbour seals	Most of the grey seal population will be on land from October to December during the breeding season, and in February and March during the annual moult, therefore densities at sea are likely to be lower at these times of the year (DECC, 2016). The density of grey seals within the project area is estimated to be 0-1 individuals per 25 km^2 (Russell *et al.*, 2017). Harbour seals generally haul out on tidally exposed areas of rock, sandbanks or mud. Pupping season is between June and July, and the moult occurs in August and September, therefore from June to September harbour seals are on shore more often than at other times of the year (DECC, 2016). The predicted density of harbour seals within the project area is very low, 0-1 animal per 25 km^2 (Russell *et al.*, 2017).

Environmental Receptor	Description
European Protected Species (EPS) most likely to be present in the project area	
Harbour porpoise	Harbour porpoise have been spotted at the Banff and Kyle location in the months of May, July, August, September (Reid *et al.*, 2003). The predicted density of harbour porpoises in the vicinity of the project area is moderate-high compared to the rest of the UK waters, with an estimate of around 0.59 animals per km^2 (Hammond *et al.*, 2017).
Atlantic white-sided dolphin	Within the project area, Atlantic white-sided dolphins have been observed in July (Reid *et al.*, 2003). Their density is estimated to be 0.01 animals per km^2, which is high in comparison with other areas of the UK (Hammond *et al.*, 2017).
Short-beaked common dolphin	Short-beaked common dolphins have been observed in the project area in August (Reid *et al.*, 2003). They are so infrequently observed in this region that estimates of their abundance have not been made.
Minke whale	Minke whale have been observed in May and July in the project area (Reid *et al.*, 2003). Their density is predicted to be 0.04 animals/km^2 which is the highest across all areas surveyed (Hammond *et al.*, 2017).
White-beaked dolphin	White-beaked dolphin may be found in the project area throughout much of the year with peaks in summer; they have been observed in February, July, August, September, October, and November (Reid *et al.*, 2003). The species are roughly estimated to have a density of 0.24 animals/km^2 in the project area (Hammond *et al.*, 2017).
Benthic environment	
Seabed type	The Banff Field is located partly within A5.27 'Deep circalittoral sand', and also within an area of A5.37 'Deep circalittoral mud'. The Kyle Field is almost exclusively located within A5.37 'Deep circalittoral mud'. Directly to the south of the Banff Field is a small patch of A5.15 'Deep circalittoral coarse sediment' (EMODnet, 2019). Side-scan sonar (SSS) data revealed regions of seabed which had higher sonar reflectivity corresponded with regions of A5.44 'Circalittoral mixed sediment' in the Banff Field (Fugro, 2020a).
Benthic fauna	Benthic fauna was much the same between the Banff and Kyle Fields. The dominant taxa observed within both the sandy and mixed substrate at the Banff Field, were sea pens (*Pennatula phosphorea*), hermit crabs (Paguridae) and anemones (Actiniaria including *Hormathiidae* and *Epizoanthus papillosus*) (Fugro, 2020a). Sea urchins (*Gracilechinus acutus*) were additionally amongst the dominant species within the Kyle Field (Fugro, 2020b). Bioturbation was evident across both survey areas (Fugro 2020a, 2020b).
Fish – spawning and nursery grounds	
Spawning grounds	The project area is located within the high intensity spawning grounds of mackerel (*Scomber scombrus*) and Norway pout (*Trisopterus esmarkii*) as well as the spawning grounds of cod (*Gadus morhua*), lemon sole (*Microstomus kitt*) and sandeel (*Ammodytidae sp.*) (Coull *et al.*, 1998; Ellis *et al.*, 2012).
Nursery grounds	The following species have nursery grounds in the vicinity of the project area: anglerfish (*Lophius piscatorius*), blue whiting (*Micromesistius poutassou*), cod, European hake (*Merluccinus merluccinus*), haddock (*Melanogrammus aeglefinus*), herring (*Clupea harengus*), ling (*Molva molva*), mackerel, Norway pout, plaice (*Pleuronectes platessa*), sandeel, spurdog (*Squalus acanthias*) and whiting (*Merlangius merlangus*) (Coull *et al.*, 1998; Ellis *et al.*, 2012).

Environmental Receptor	Description
	Fisheries sensitivity maps indicate that the probability of significant aggregations of juveniles of these species in the project area is low (Ellis *et al.*, 2012).
Probability of juvenile fish aggregations	Aires *et al.* (2014) provides modelled spatial representations of the predicted distribution of 0 age group fish. The modelling indicates the presence of juvenile fish (less than one year old) for multiple species: anglerfish, blue whiting, European hake, haddock, herring, mackerel, horse mackerel (*Trachurus trachurus)*, Norway pout, plaice, sprat (*Sprattus sprattus*), and whiting. Across the project area, the probability of juvenile fish aggregations occurring is low for all species (<0.15).
Seabirds	
According to the density maps provided in Kober *et al.* (2010), the following species could be found within the project area: northern fulmar (*Fulmarus glacialis)*, Manx shearwater (*Puffinus puffinus)*, European storm-petrel (*Hydrobates pelagicus),* northern gannet (*Morus bassanus)*, Arctic skua (*Stercorarius parasiticus)*, great skua (*Stercorarius skua)*, black-legged kittiwake (*Rissa tridactyla)*, great black-backed gull (*Larus marinus)*, common gull (*Larus canus)*, lesser blackbacked gull (*Larus fuscus)*, herring gull (*Larus argentatus)*, Arctic tern (*Sterna paradisaea)*, common guillemot (*Uria aalge)*, razorbill (*Alca torda)*, little auk (*Alle alle)*, Atlantic puffin (*Fratercula arctica)* and pomarine skua *(Stercorarius pomarinus)*. Seabird Oil Sensitivity Index (SOSI) identifies areas at sea where seabirds are likely to be most sensitive to surface pollution (Webb *et al.*, 2016). Seabird vulnerability in Blocks 22/27, 29/2 and 29/7 is low throughout the year with no data for November. Block 29/11 experiences a Very High SOSI value in the months of September and October (Webb *et al.*, 2016). The risk of an oil spill from the proposed operations in the project area is considered remote and therefore the overall risk to birds is considered negligible.	

Seabird Oil Sensitivity Index

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
22/21	5	5*	5	5*	5*	5	5	5	5	5*	N	5*
22/22	5	5	5	5*	5*	5	5	5	5	5*	N	5*
22/23	5	5	5	5*	5*	5	5	5	5	5*	N	5*
22/26	5	5*	5	5*	5*	5	5	5	5	5*	N	5*
22/27	5	5*	5	5*	5*	5	5	5	5	5*	N	5*
22/28	5	5	5	5*	5*	5	5	5	5	5*	N	5*
29/1	5	5	5	5*	5*	5	5	5	5	5*	N	5*
29/2	5	5	5	5*	5*	5	5	5	5	5*	N	5*
29/3	5	5	5	5*	5*	5	5	5	5	5*	N	5*
29/6	5	5	5	5*	5*	5	5	5	5	5*	N	5*
29/7	5	5	5	5*	5*	5	5	5	5	5*	N	5*
29/8	5	5	5	5*	5*	5	5	5	5	5*	N	5*
29/11	5	5	5	5*	5*	5	5	5	2	2*	N	5*
29/12	5	5	5	5*	5*	5	5	5	5	5*	N	5*
29/13	5	5	5	5*	5*	5	5	5	5	5*	N	5*

Environmental Receptor	Description					
Key	1 = Extremely high	2 = Very High	3 = High	4 = Medium	5 = Low	N = No data
	*in light of coverage gaps, an indirect assessment of SOSI has been made					

Societal Receptor	Description
Commercial fisheries	

The Banff and Kyle Fields lie in International Council for the Exploration of the Seas (ICES) Rectangles 42F1 and 43F1 (Scottish Government, 2019).

In 2018 fishing effort in ICES rectangle 42F1 was highest for January and August, together accounting for 67% of the total number of days fished, with February and December contributing for the remaining 33% of fishing effort with the rest of the months being disclosive (Scottish Government, 2019).

In 2018 fishing effort in ICES rectangle 43F1 was highest in January, accounting for 32% of the total number of days fished, with the other disclosive months contributing for the remaining 68% of fishing effort (Scottish Government, 2019).

Trawls were the most utilised gear in rectangle 42F1 and 43F1. In total, trawls contributed 100% of the total fishing effort in rectangle 42F1. In rectangle 43F1 more than 99% of total fishing effort was from trawls with <1% made up from seine nets (Scottish Government, 2019).

Fishery Landings in ICES Rectangle 42F1

Species Type	2018		2017		2016		2015		2014	
	Live Weight (Te)	Value (£)	Live Weight (Te)	Value (£)	Live Weight (Te)	Value (£)	Live Weight (Te)	Value (£)	Live Weight (Te)	Value (£)
Demersal	53	75,049	67	112,475	153	202,601	66	70,311	72	92,059
Pelagic	63	25,388	1	1,301	215	104,582	0.33	362	959	365,880
Shellfish	115	484,335	140	602,528	236	1,080,620	83	321,002	81	333,874
Total	232	584,772	209	716,304	604	1,387,803	150	391,674	1,112	791,813

Fishery Landings in ICES Rectangle 43F1

Species Type	2018		2017		2016		2015		2014	
	Live Weight (Te)	Value (£)	Live Weight (Te)	Value (£)	Live Weight (Te)	Value (£)	Live Weight (Te)	Value (£)	Live Weight (Te)	Value (£)
Demersal	34	41,431	140	181,436	106	136,761	57	64,849	185	264,204
Pelagic	0.14	90	80	33,760	1	967	0.27	369	850	419,346
Shellfish	4	18,828	93	401,357	127	528,622	10	42,065	6	22,500
Total	37	60,349	314	616,552	234	666,349	68	107,284	1,042	706,050

Other sea users

<table>
<tr><th>Environmental Receptor</th><th>Description</th></tr>
<tr><td>Shipping activity</td><td>The Banff and Kyle Fields are in areas of either low or very low shipping intensity (Oil and Gas Authority, 2016).</td></tr>
<tr><td>Oil and gas</td><td>The Banff and Kyle Fields are in a mature area of the CNS with extensive oil and gas development. Oil and gas surface infrastructure within 40 km of the project area is described below.
<table>
<tr><th>Installation name</th><th>Installation type</th><th>Operator</th><th>Distance from the closest project point</th></tr>
<tr><td>Gannet A</td><td>Platform</td><td>Shell UK</td><td>27 km NW</td></tr>
<tr><td>Triton</td><td>FPSO</td><td>Dana Petroleum</td><td>26 km W</td></tr>
<tr><td>Elgin</td><td>Platform</td><td>Total</td><td>32 km E</td></tr>
<tr><td>Franklin</td><td>Platform</td><td>Total</td><td>30 km E</td></tr>
<tr><td>Shearwater</td><td>Platform</td><td>Shell UK</td><td>39 km E</td></tr>
</table></td></tr>
<tr><td>Telecommunication</td><td>There are no active cables in the vicinity of Banff and Kyle. However, the North Sea Link electricity interconnector between Norway and the UK is currently under construction. The planned cable passes ~2 km from the Kyle Field (NMPi, 2020). The cable will cross the disused Kyle South to Curlew production pipeline. The cable will be operational by 2021 (North Sea Link, 2020).</td></tr>
<tr><td>Military activities</td><td>There are no designated areas for military activities occur in the vicinity of the Banff and Kyle Fields. There are no known military restrictions on Blocks 22/27, 29/2 and 29/7 (NMPi, 2020).</td></tr>
<tr><td>Renewables</td><td>The closest renewables site is ~54 km from the Kyle Field. It is the E1 site which was included as part of the Scottish Government's 2019 Draft Sectoral Marine Plan for Offshore Wind Energy in Scotland (NMPi, 2020).</td></tr>
<tr><td>Wrecks</td><td>There are two unknown wrecks approximately 3.5 km NW and 6.7 km due west of the Banff Field respectively. The (possible) wreck of the Ternacia motor trawler is located ~3.7 km due south of the Banff Field. Another unknown wreck is located <1 km from the Curlew Field. None of these wrecks are listed as dangerous (NMPi, 2020).</td></tr>
</table>

5 ENVIRONMENTAL APPRAISAL STRATEGY

In line with the recent OPRED decommissioning guidelines, CNRI and Teekay have reviewed their approach to the EA and seek to undertake a proportionate impact assessment that recognises the key or significant areas of interest in relation to the proposed decommissioning activities. CNRI and Teekay envisage EA documents that do not unnecessarily repeat project information that is available in the DP or CA report and which focusses on the key issues, and key environmental and societal receptors associated with the decommissioning project, detailing the robust process by which those key issues have been agreed upon. To aid the screening of these aspects, CNRI and Teekay have undertaken an ENVironmental Impact IDentification (ENVID) workshop.

This process comprised a high-level review of the potential activities associated with the anticipated decommissioning activities. Consideration was given to all associated impacts including direct, cumulative and transboundary effects and any Stakeholder concerns carried over from the Banff and Kyle Phase 1 decommissioning activities (FPSO and FSO float-off).

5.1 Aspects Scoped-in for Further Assessment

At this initial stage, prior to the ENVID and CA being undertaken, CNRI and Teekay consider the key aspects which could be impacted by the proposed decommissioning strategies described above would be:

- **Physical presence** of infrastructure decommissioned *in situ* in relation to other sea users and in terms of risk of snagging by fishing trawlers; and
- **Seabed disturbance** during excavation and removal activities:
    - Short-term disturbance to the seabed, within and outside of protected sites, and to features of conservation importance; and,
    - Habitat loss resulting from the footprint of infrastructure decommissioned *in situ* and any additional rock-placement required. It should be noted that the use of additional rock is still subject to the outcome of Comparative Assessment. If rock-placement is required, this will be kept to a minimum and only used as a last resort if all other options have been considered.
- **Noise impacts associated with explosive use**– Perceived noise would be derived from explosives relating to severance during well decommissioning activities.

These aspects will be addressed either within the relevant EA and/ or within any permits relevant to the associated activity.

Question to stakeholders: Do you agree that the above list of perceived key impacts adequately describes the key potential impacts that should be further assessed?

5.2 Aspects scoped-out of Further Assessment

The aspects for which CNRI and Teekay consider there to be minimal or non-significant impact and therefore potentially could be screened out from further discussion in the EA report are described below:

- **Energy and emissions** – Although the project will produce atmospheric emissions and consume energy to execute, these activities are required to be undertaken to meet decommissioning obligations for the infrastructure. The options have been considered with a focus on minimising vessel time and therefore minimising any associated emissions. The total CO_2 and energy consumption for the project will be stated in the EA along with its context in relation to UKCS and global values. These contributions are likely to be far below any thresholds for emissions in the UKCS or on a global scale and are not significantly larger than general vessel operations in the region. Best practices will be employed to minimise this environmental footprint.
- **Waste and onshore activities** – All wastes, including normal, hazardous and special wastes, will be shipped to shore for processing. CNRI and Teekay have developed a Waste Management Strategy for

the Banff and Kyle Fields for the handling of waste generated from the decommissioning activities based on the waste hierarchy (i.e. identification, quantification, and management). There will be an Active Waste Management Plan (AWMP) which will involve tracking waste from cradle to grave. The Waste Management Strategy will be further developed into Active Waste Management Plans as per Decom North Sea Guidance on waste management. Reuse and recycling of materials will be prioritised as far as possible. Any transfrontier shipments of waste (if required), including those for landfill, will be non-hazardous and will be managed under a Waste Management Plan and will comply with relevant legislation.

- **Noise impacts other than explosive use for well decommissioning** – Noise would be derived from vessels and mechanical cutting operations relating to the severance and removal activities. None of these are perceived to be significantly damaging to the marine mammals or fish in the decommissioning area. There may be a small disturbance in the immediate vicinity, but this is not expected to be any greater than the general vessel traffic that exists in the region.
- **Operational discharges to sea** – Prior to decommissioning, all subsea infrastructure, pipework and subsea flowlines will be cleaned to an agreed standard with BEIS and will be decommissioned independently prior to the decommissioning of any wells. Any potential residual volumes are expected to be minimal and would be considered under the individual permit consent applications for the decommissioning activities through the Portal Environmental Tracking System (PETS).
- **Accidental events:**
    - Loss of containment (wells) – The likelihood of loss of well containment caused by accidental overtrawl is negligible as non-project vessels will not be present within the 500m zone at any time prior to well decommissioning. The likelihood of a dropped object on the wellheads from operational vessels in Field is very low. Further to this, CNRI and Teekay will update the existing Oil Pollution Emergency Plan (OPEP) to reflect a response and will have a Temporary Operations OPEP (TOOPEP) in place for the duration operations up to and including well decommissioning activities. CNRI and Teekay have a Wells Shut-in Risk Assessment which indicates a very low likelihood of loss of containment, supporting this approach.
    - Dropped objects – The likelihood of a significant dropped object is low from the proposed operations. If a dropped object event was to occur, all reasonable endeavours will be made to recover any materials where safe and practicably feasible. If for any reason material cannot be recovered, then a discussion would be held with the regulator and an agreement on a suitable remediation and/ or monitoring programme would be reached where required.
    - Collision risk – Most of the decommissioning activities involving infrastructure will occur within the current 500 m safety zones which are in place around subsea structures. As a result, there should be minimal exposure to other users of the sea. An anticipated marginal increase in vessel traffic is not likely to be perceived over the current vessel traffic levels. Notifications will also be issued to mariners to inform of vessel transiting routes and activities which are taking place.

Question to stakeholders: Do you agree with the list of aspects which would constitute a minimal or non-significant impact and therefore could be screened out from further detailed assessment?

6 PROPOSED MITIGATION / CONTROL MEASURES

CNRI and Teekay will utilise industry best practice and build on knowledge and experienced gained from other decommissioning activities it has undertaken within the UKCS. Table 6-1 provides a summary of the initial mitigation / control measures which are being considered to help minimise any potential impact from the Banff and Kyle decommissioning activities in relation to the aspects highlighted in the previous section.

Table 6-1 Summary of Proposed Mitigation Measures for Aspects Scoped in to Further Assessment

Aspect scoped in from ENVID	Proposed mitigation
Seabed disturbance (short and long-term)	Minimal use of additional rock material (if required)
	Continued consultation with Regulator and Statutory Consultees
	Post decommissioning survey and monitoring programme
	Clear seabed verification
Underwater noise, specifically explosive use	Avoidance of cumulative noise sources (explosive noise will be single source and short term)
	Noise study to assess the extent of disturbance
	Adherence to JNCC (2010) Guidelines for minimising risk of injury to marine mammals from using explosives (if required following study)
Physical presence of infrastructure decommissioned *in-situ* (to be confirmed following CA)	Notification to mariners
	Overtrawlability of rock protection (if required)
	Accurate recording of infrastructure decommissioned *in situ*
	Continued consultation with fisheries representatives
	Clear seabed verification survey
	Post decommissioning survey and monitoring programme

Question to stakeholders: Do you agree or have any additional comments in relation to the above list of proposed mitigation/ control measures?

CNRI and Teekay recognise the importance and benefit of effective stakeholder consultation, both at an early stage and throughout the EA process. CNRI and Teekay wish to ensure that all relevant concerns and opinions to the project are factored into the decision-making process and are adequately addressed in the EA and permitting process.

A list of initial consultees are as follows:

- Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) (EMT/ODU)
- Marine Scotland (MS)
- Ministry of Defence (MoD)
- Joint Nature Conservation Committee (JNCC)
- National Federation of Fishermen's Organisations (NFFO)
- Scottish Fishermen's Federation (SFF)
- Northern Irish Fish Producer's Organisation
- Global Marine Systems
- Scottish Environment Protection Agency (SEPA)

As a recognised stakeholder in the decommissioning project, CNRI and Teekay would appreciate your comments on its proposed decommissioning activities and impact assessment strategy. CNRI and Teekay would also welcome answers to the questions that have been posed above. To allow for appropriate inclusion in the decommissioning project CNRI and Teekay would be grateful if you could provide comment by the 13th November 2020.

If you require any further information, please do not hesitate to contact me at the above address or by email on banffkyledecom@cnrl.com.

Yours faithfully,

Kerry Langworthy

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