

EC
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**Banff and Kyle Fields -
Subsea P&A Project**
CASE STUDY



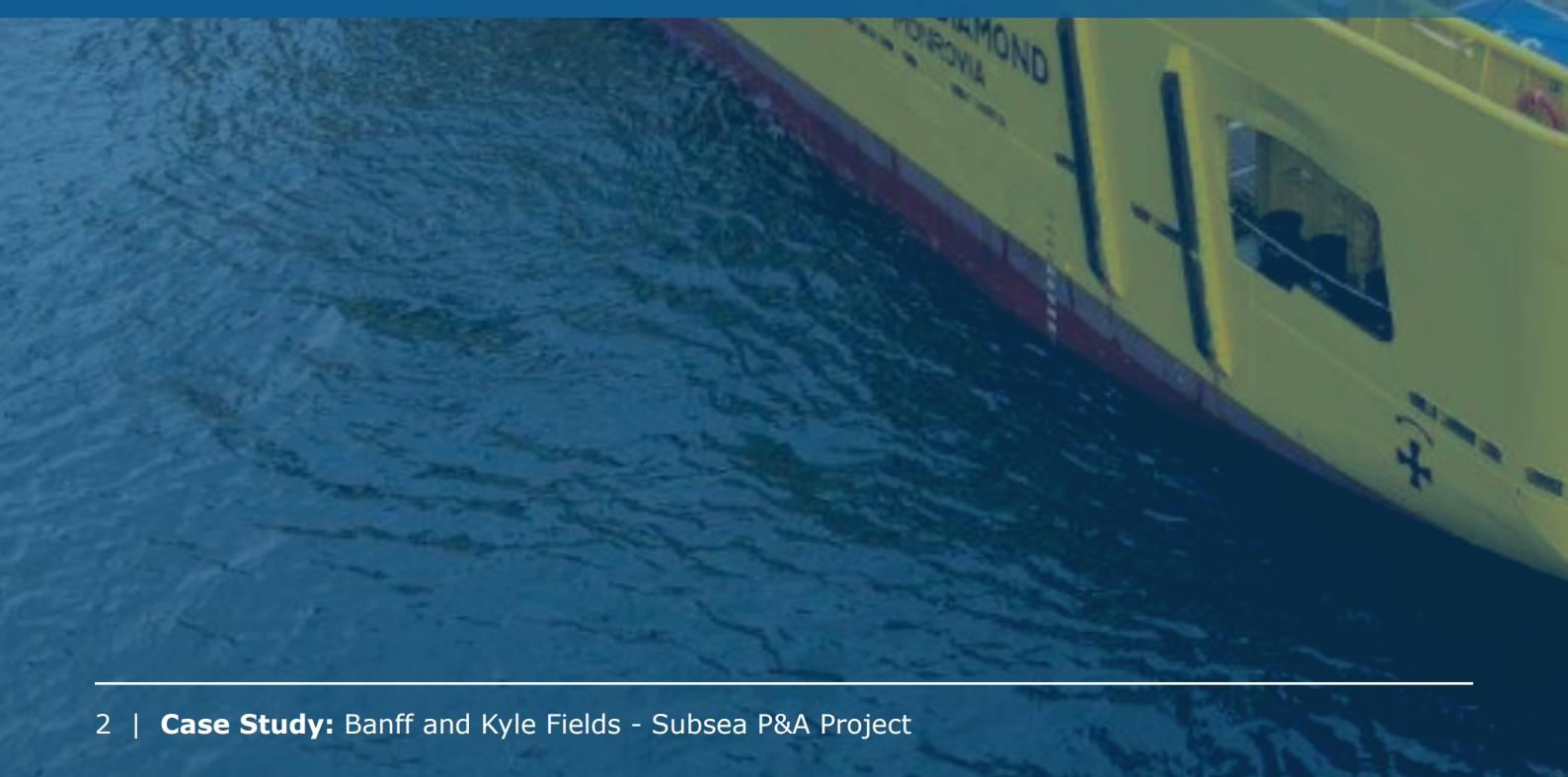


Collaboration delivers new benchmarks for P&A performance

In 2022 the Banff / Kyle – Phase 2 Decommissioning Programme (subsea well plugging and abandonment – P&A) was identified as having achieved exemplary levels of performance and success, and established new benchmark standards for subsea P&A.

A project completion workshop was staged in early 2023 aimed at capturing the approaches and practices that led to this success.

This case study attempts to document the key elements of learning for cross-sector sharing.



Introduction

The safe, efficient and effective decommissioning of 'end of life' hydrocarbon production facilities in the UK offshore sector is a critically important element of the UK energy transition programme.

Owner / operators and their investment partners have significant legal obligations and liabilities and these need to be discharged through decommissioning projects that offer no reward or profit on completion.

UK industry regulator, the North Sea Transition Authority (NSTA), closely scrutinises Environmental Impact Assessments and Decommissioning Project Plans during project planning to ensure that proposed decommissioning projects will be performed to the required standards and in satisfaction of its NSTA Stewardship Expectations.

A culture and climate of continuous improvement and sharing of knowledge across the offshore sector is expected.

Following the cessation of field production and removal from station of FPSO and FSO facilities in 2020, full regulatory approval for Banff / Kyle - Phase 2 was achieved in late 2021.

Throughout the project lifecycle it is clear that collaboration between the parties involved was a key enabler for project success.

The capacity and capability of both the Operator / Client – **Canadian Natural Resources International (CNRI)** and Principal Project Contractor – **WellSAFE Solutions Limited (WSS)** was notable:

CNRI

CNRI understands and appreciates the importance of the contracting and supply chains to its business through its Working Together core value and takes responsibility for developing good working relationships with the organisations it works with.

WSS

WSS is a specialist, Tier 1 well decommissioning contractor and follows a business strategy and model that has collaboration at its core.

Values of honesty and openness are at the heart of the way that its business is conducted.

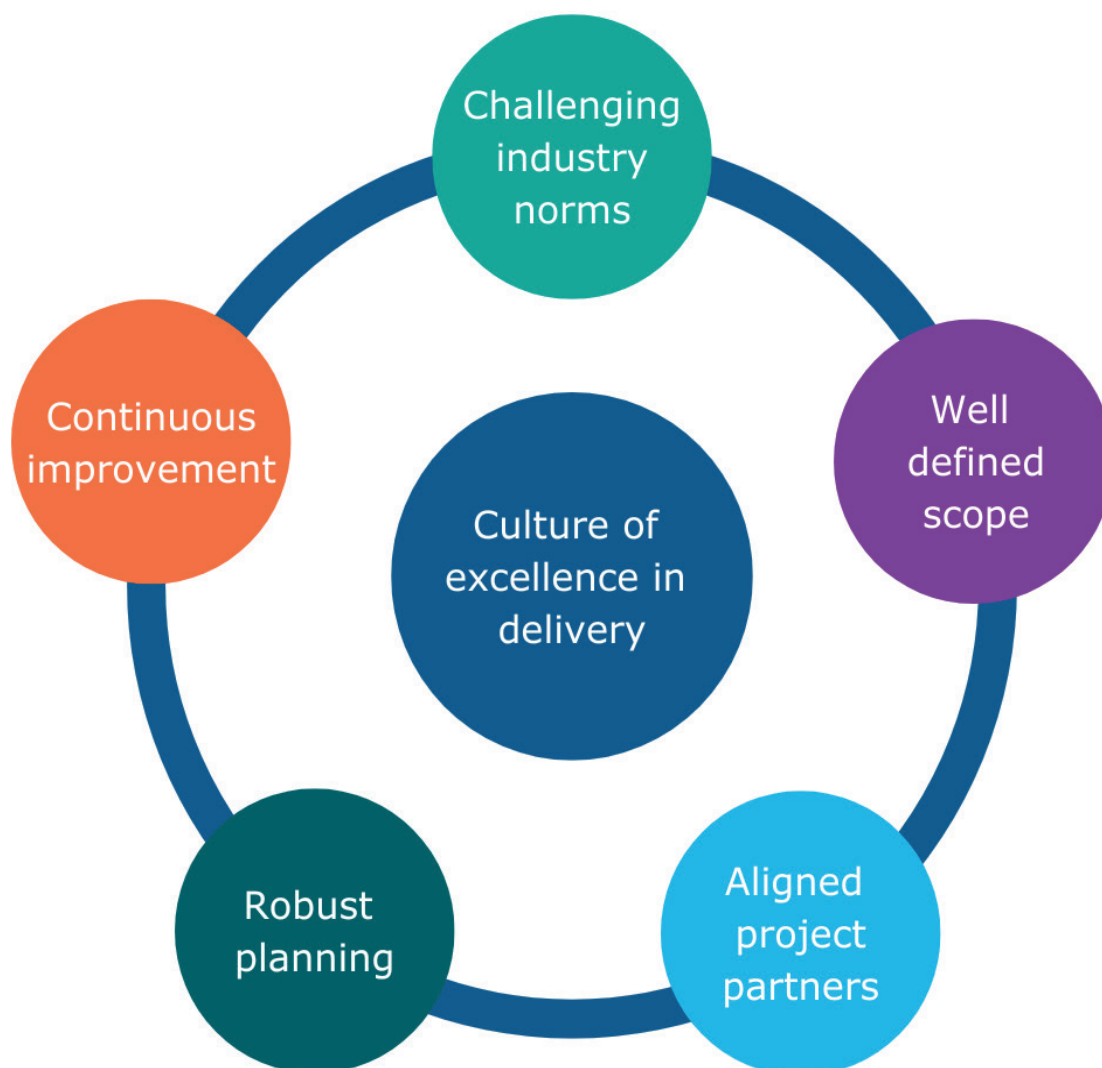
A culture of excellence in project delivery


The culture and values of both CNRI and WSS clearly contributed to the establishment of an effective collaboration, but the importance of good leadership in both organisations to the achievement of project success cannot be overstated.

WSS was engaged early in the project lifecycle by CNRI through a selection process that included alignment of values and cultural 'fit' as well as technical competence and capability.

Senior leaders from both parties then worked collectively to build an integrated project team which was aligned and committed to achieving common goals and objectives. This included the establishment of new, improved industry standards of P&A performance.

In this way the **Culture of Excellence in Delivery** was created encompassing challenging industry norms, well-defined scope, alignment of project partners, robust planning and continuous improvement, as shown below:





Challenging industry norms

CULTURAL SYNERGY

- Cultural synergy and value alignment were important elements of the CNRI bid appraisal process for the award of contract to WSS, alongside other selection criteria such as safety performance, track record, technical capability and cost forecast.

STRETCH TARGETS


- Mutually agreed stretch targets were established aimed at class / industry sector leading performance:
 - Overall project success was defined as establishing new sector benchmarks for subsea P&A performance – a goal which was achieved.
 - Performance expectations were expressed in terms of target days per well at each of the three drill centre batches.
 - The contract provided for targets to be reviewed and reset after completion of each batch.
 - A contractual incentive was available for safe target achievement.

RISK MANAGEMENT

- A dedicated Risk Manager was appointed within the integrated project team:
 - Monthly and ad-hoc risk reviews and workshops were held with equal emphasis on opportunities and threats.
 - Project risk management was a team approach with CNRI, WSS and sub-contractors all contributing to risk management and mitigation.
 - An effective Management of Change (MOC) process was utilised.
 - The process provided the basis for an early, key decision to proceed without tethering.

RIG ACCEPTANCE/ INTAKE PROCESS

- A shared process with other operators and WSS clients enabled sector efficiency benefits, not just focus on project interests:
 - CNRI were given access to the rig ahead of hire and WSS proactively sought collaboration opportunities for optimal efficiency between CNRI and other WSS clients.



Well
defined
scope

SCOPE DEFINITION- GENERAL

- A detailed scope definition which identified potential problems and proposed methods of contingency was developed:
 - The opportunity to include other fields within the project scope, for scale economies, was investigated but determined to be sub-optimal; aggregation opportunities were intrinsic to the scope development process.
 - AB3 scope for wellhead removal was deliberately removed from the P&A Phase 2 overall scope to more efficiently aggregate with a future vessel campaign.
 - Minimising GHG emissions was considered to be an integral element of the scope.

UNDERSTANDING WELL COMPLEXITY

- Wellhead type, well location, condition, complexity and learning curve for the rig crew were all considered and studied in detail during scope development.
- Blowout Preventer (BOP) weight determined and implications considered in advance.

PRE-ENGINEERING

- Extensive pre-engineering was undertaken for clear understanding of tooling requirements.
- Similarly, the opportunities for deployment of new technologies were extensively studied, identified, well understood and built into the scope definition for project planning.

CLASH DETECTION

- 3D modelling techniques were used for clash detection.



Aligned project partners

CNRI CO-LICENSEES

- Early but informed engagement and agreement with co-licensees took place, building on relationships developed during FPSO / FSO demobilisation:
 - Early agreement and decision was reached on a number of important project fundamentals:
 - o All Banff and Kyle subsea well P&A to conduct within the one campaign.
 - o Agreement of barrier philosophy, technical alignment on AB1 plug depth, well P&A operational strategy etc.
 - o Establishment of single contractual and cost reporting structure across licensee partner groups
 - o Agreement of budget, phasing, fair cost allocation across fields and agreed procurement plan.
 - Relationships based on openness with regular informal meetings and briefings.
 - Co-licensees were offered clear visibility of project progress with the opportunity to attend daily operations calls.

CNRI/WSS ALIGNMENT PROCESS

- Early engagement was the key to the successful, collaboration providing sufficient time for the relationship to develop:
 - WSS expressed interest in explaining and presenting their business model and business development plans to CNRI a few years before work on P&A commenced
 - CNRI issued a prequalification invitation about 6 months ahead of the formal ITT in 2020
 - Numerous engagement sessions were held during the tender process – used by CNRI to ensure understanding of their value drivers and seek corresponding insight in tenderer values for alignment.

SUBCONTRACTOR ALIGNMENT

- Alignment with CNRI and WSS cultures was given strong focus at kick-off with a 'one team' theme which flowed through the project.



Robust planning

BASIS FOR PROJECT PLANNING

- Goals were deliberately set to establish new, best in class, industry benchmarks:
 - The planning team were empowered to challenge 'best practice'.
 - Industry norms were challenged throughout and provision made for new technology approaches to be tested.
 - Rig team were focussed on incremental delivery.
 - Rig cadence was given priority and the plan was developed to enable this.
 - Rig moves were optimised through utilisation of - anchor pre-lays.

PREPARATION OF THE PROJECT SCHEDULE

- The project schedule was jointly developed by the CNRI / WSS team – with shared ownership:
 - The schedule was developed and matured through a gated project delivery process.
 - A key aspect which underpinned the schedule approach was WSS advanced understanding of wells.

SCHEDULE FLEXIBILITY AND CONSTRAINTS

- As per the project cost profile, the schedule was targeted as a summer campaign:
 - Some start window flexibility was allowed to accommodate a WSS previous client campaign.
 - Daily planning meetings were key to the capture of lessons learned and the establishment of timings for the next schedule phase.
 - An opportunity to trial new and developing technologies was one of the keys to performance step change.

Continuous improvement

Continuous improvement contributions

- Performance Engineers were appointed and used by WSS to capture lessons learned and rig performance data.
- The team was challenged during planning to identify opportunities for new and alternative technology deployment, including alternative uses or improvements to existing tools and processes.
- Anticipated contingencies were incorporated into well programmes to allow nimble decision making.
- WSS shared learnings from prior campaigns with other clients and the resultant

Sustained collaboration

The 'one team' open working environment and important relationships for effective collaboration were established by CNRI and WSS leaders at an early stage, with the relationships developed at senior management level being viewed as particularly important.

The project governance structure, with steering and project leadership groups, was a collaboration enabler and 'counterparts' in each organisation were identified at the onset. Steering Group meetings were held every six weeks and focussed on culture and 'one team' performance.

Although CNRI and WSS were aware of the ECITB Project Collaboration Toolkit, collaboration was achieved for Banff / Kyle – Phase 2 based on the culture and experiences of both entities, without the need to refer to such external guidance.

But many of the features of the successful Banff / Kyle – Phase 2 project collaboration such as early engagement, alignment to common goals, development of trust, robust planning, scope clarity etc. reflect the principles and guidance as set out in the ECITB Project Collaboration Toolkit.

Outcomes and measures of success



Safety performance

The project returned an excellent safety performance.

There were no recorded lost time incidents, medical treatment or restricted work cases.



Operational performance

Downtime contributors were:

14%

Well challenges

7%

Weather

6%

Vendor NPT
(non-productive time)



Project schedule and cost performance

Through first-quartile performance and the achievement of a new benchmark in terms of the number of days required to safely and effectively plug and abandon subsea wells, the project has set new standards.

The project outcomes provide encouragement to other offshore decommissioning stakeholders to drive performance improvement through further learning, cross-sector sharing and continuous improvement.

The regulators view



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It is extremely encouraging to see a **tangible example of delivering excellence** in decommissioning through thoughtful collaboration between supply chain and licensees.

The Banff and Kyle subsea well P&A project is a **great example of the benefit of value based contracting** and developing relationships based on trust and mutually beneficial reward mechanisms.

I'd like to thank CNRI and Well-Safe for agreeing to share their experiences and learnings, as well as ECITB for their help in sharing these learnings with industry.

Pauline Innes

NSTA Director of Supply Chain and Decommissioning

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What is the NSTA?

The North Sea Transition Authority (NSTA), which regulates the oil and gas, offshore hydrogen and carbon storage sectors, is a key consultee of the UK Government on Decommissioning Programmes submitted by licensees. Through its stewardship, the NSTA helps ensure decommissioning projects are cost efficient and meet regulatory obligations.

Find out more

The ECITB Project Collaboration Toolkit is a 'free' resource which can be readily used, without licence, to support the collaborative delivery of engineering construction projects in all industry sectors.

It can be accessed and downloaded, together with associated project case studies and other supporting materials through the following link:

www.ecitb.org.uk/project-collaboration-toolkit/