

**MALIN
ABRAM**

CONTRACT RECORD M446

TRANSPORTATION OF REELS



Figure 1: Reel successfully landed to transport on quayside

OVERVIEW

We were delighted to work with TechnipFMC on three reel shipments during a busy summer campaign. These shipments facilitated TechnipFMC's ongoing work in support of their offshore development projects. The first shipment was in support of the CNOOC International Telford project, to transport a number of reels on installation cradles from Technip's manufacturing facilities in Newcastle and Le Trait, to Nigg. The second cargo shipment included umbilicals for TFMC's work on the Evelyn Phase 1 and Gannet E Expansion projects, in partnership with Dana Petroleum and Tailwind Energy, as well as TFMC's contract with Ithaca Energy (UK) on their Enhanced Oil recovery project at the captain field in the North Sea. This shipment involved the transportation of five reels, the heaviest at 360Te, from Technip's manufacturing facility in Le Trait to Nigg, where Technip's offshore vessel mobilised for their offshore campaign.

The third shipment consisted of returning the seven, now empty, reels from Nigg to their respective production facilities in Newcastle and Le Trait, the heaviest at 103Te. While this project was an example of a typical shipment for Malin Abram, it required an emphasis on project management to ensure the cargo was delivered on time as delays could have had significant knock-on effects to the client's project. This project allowed Malin Abram to highlight their expertise in coaster vessel supply, engineering support, stowage and seafastening development, as well as risk assessment and marine procedures.



Figure 2: Reel being loaded to vessel hold

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THE CLIENT AND LOCATION

CLIENT

TechnipFMC (TFMC) is a leading technology provider to the traditional and new energies industry, delivering fully integrated projects, products, and services.

TechnipFMC provides proprietary technologies and comprehensive solutions to help their clients unlock new possibilities to develop energy resources.

This latest scope follows a long history of collaboration between TFMC and Malin Abram, with a number of reel transportation projects across the years.

LOCATION

The cargo was loaded at TechnipFMC's dedicated facilities in Newcastle-on-Tyne, accessed by sea from the Tyne, and FlexiFrance in Le Trait, accessed via the Sienne. The discharging port of Nigg is accessible via the Cromarty Firth.

All of the above sites see extensive industrial use and as such berthing timings are exceptionally tight, with a strong likelihood of competing vessels on either side of timeslots. As a result, it was crucial to ensure that Malin Abram, and, by extension, the client, always had the most up to date information regarding berth availability and that this was communicated to all stakeholders routinely.



Figure 3: 11.4m reel lifted from vessel hold



Figure 4: Reel offloaded to quayside

THE SHIPMENTS

OUTWARD SHIPMENTS

The reels were secured by way of steel blockers (shear plates) and 10 Te minimum breaking load (MBL) chains. The blockers were designed to the loads, each reel experienced to ensure both the efficient use of material and to minimise the amount of welding / burning required during loadout / discharge, to allow both a safe operation and timely demobilisation of the coaster vessel. Chains were used where uplift was experienced. Lashing locations on the reels were limited to the central hubs and it was critical that the chains reacted to the loads adequately. As such, careful consideration of lashing arrangement was required.

Additionally, Malin had scope to verify the additional "C-plates" used to secure the reels to their installation cradles to ensure that the connection was adequate for the expected sea-going forces.

An environmental restriction of windspeed Beaufort 5 was in place for the largest reels (11.2m diameter) found in shipment two. As such, route planning and careful monitoring of the weather forecast was required to ensure the safety of the cargo. If the weather deteriorated, the vessel's master had planned shelters as a contingency.

RETURN SHIPMENT

The return shipment covered the return of seven empty reels and their installation cradles to their respective production facilities.

All seven reels were secured by way of chains, resulting in a total of 136 chains being utilised. As the shipment was relatively large, it was crucial that Malin ensured that the loadout operation ran smoothly to ensure the cargo was loaded and secured in a timely manner, to allow the vessel to depart as scheduled.

The loading order had to be considered due to the volume of cargo being loaded, meaning that some items had to be landed first. With this in mind, it was critical that all parties were informed of the situation and discussions were held to ensure the load order was understood and maintained.

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CARGO DETAILS

SHIPMENT ONE: TRANSPORT OF REELS FROM LE TRAIT AND NEWCASTLE TO NIGG

- One 11.4m reel & installation cradles @ 225Te (loaded at Le Trait)
- One 9.2m reel & installation cradles @ 94Te (loaded at Newcastle)
- One timber crate 5.2 x 4.2 x 1.7 @ 12Te (loaded at Le Trait)

SHIPMENT TWO: TRANSPORT OF REELS FROM LE TRAIT TO NIGG

- One 11.4m reel & installation cradles @ 360Te
- One 9.6m reel & installation cradles @ 160Te
- One 9.6m reel & installation cradles @ 118Te
- Two 8.6m reels & installation cradles @ 208Te
- Five timber crates 3.4 x 3.0 x 1.9 @ 3Te each

SHIPMENT THREE: TRANSPORT OF EMPTY REELS FROM NIGG TO NEWCASTLE AND LE TRAIT

- One 11.4m empty reel & installation cradles @ 68Te (discharged at LTMU)
- One 11.4m empty reel & installation cradles @ 103Te (discharged at LTMU)
- One 9.6m empty reel & installation cradles @ 65Te (discharged at LTMU)
- One 9.6m empty reel & installation cradles @ 71Te (discharged at LTMU)
- Two 8.6m empty reels & installation cradles @ 42Te (discharged at LTMU)
- One 9.2m empty reel @ 61Te (discharged at Newcastle)
- One 9.2m installation cradles (left over from above 61Te reel, to be discharged at LTMU)
- One 9.2m diameter reel partition segment @ 0.7Te (discharged at Newcastle)



Figure 5: Seafastening removal

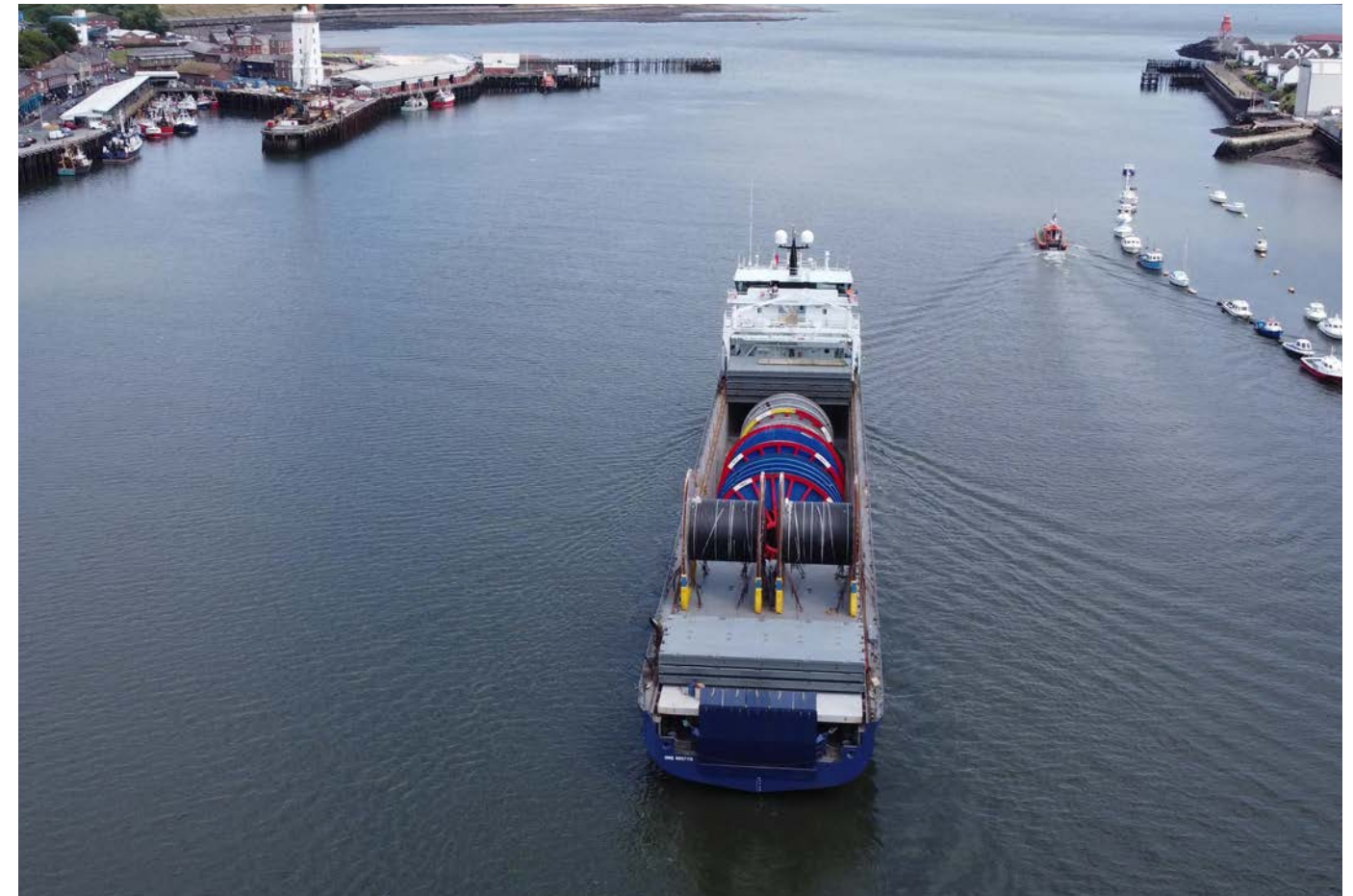


Figure 6: Empty reels on return to Le Trait

SCOPE

Each shipment called on the Malin Abram team to oversee the following:

- Supply of coaster vessel
- Engineering
- Stow plan and Securing Plan
- Transport Manual (Method Statement and Risk Assessments)
- Seafastening design
- Load-out at departure points
- Seafastening installation at departure ports
- Removal of seafastening at destination ports
- Discharge from coaster and land to quay
- Site attendance and supervision at all ports

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CONCLUSION

All three shipments are a great example of Malin Abram's expertise in the field, with each shipment running as planned, with no issues during operations. This project also demonstrated Malin Abram's ability to produce quality engineering packages to relatively short timescales.

This project offered the team the opportunity to continue to support TFMC in their projects and further develop our long-standing relationship. Additionally, it offered the team the opportunity to provide on-site training and experience to our newer colleagues.

Our clients know what to expect from our engineering packages and rightly expect us to represent not only ourselves, but also their interests, at all times.



Figure 7: Empty reels leaving Newcastle

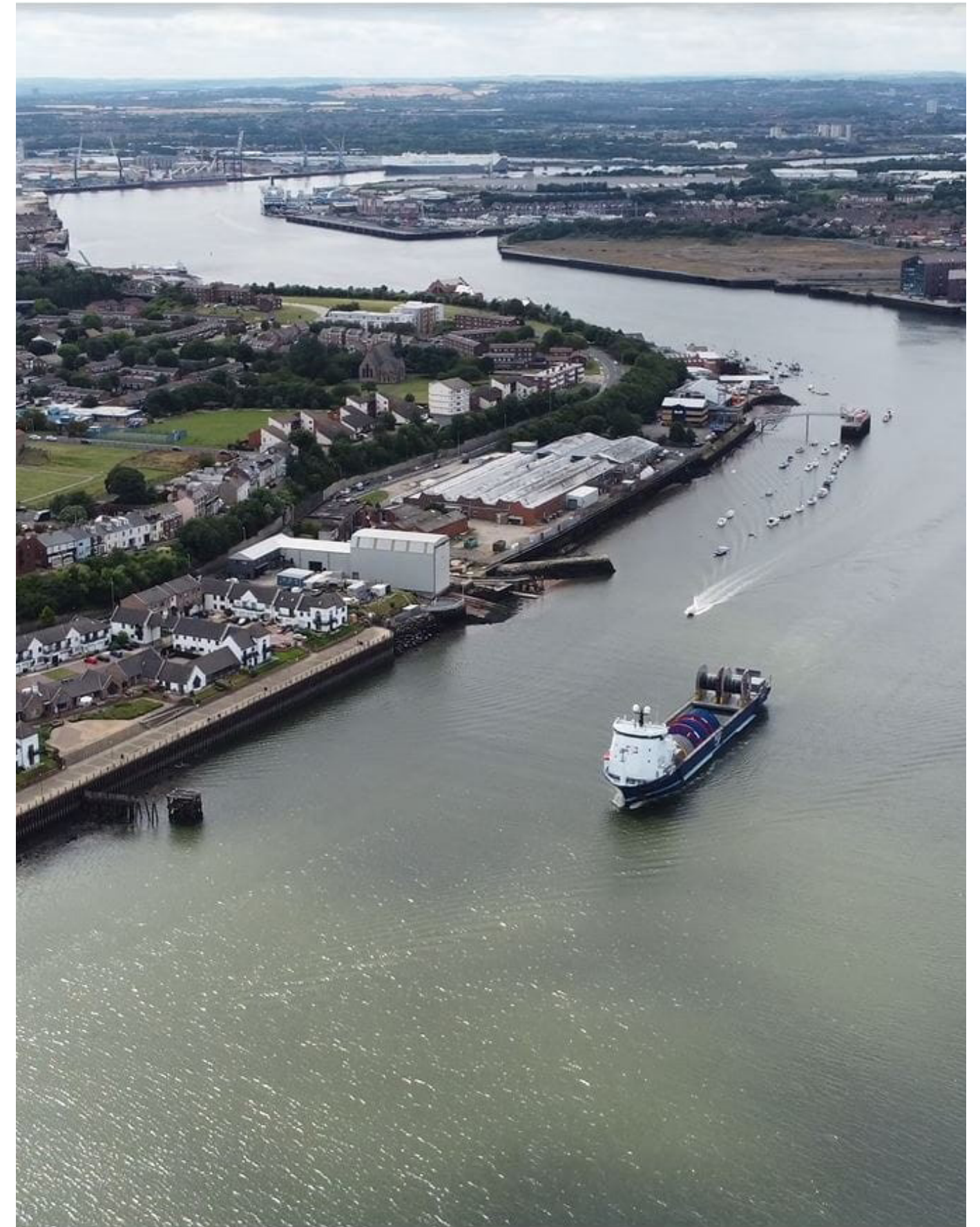


Figure 8: Empty reels on way to Le Trait