Risk Assessment for Annex IV Species

- **Introduction**

This report assesses the potential impacts of the SS Ohio salvage operation on Annex IV species, following the MARA technical guidance. The operation involves retrieving non-ferrous metals from the wreck of SS Ohio, located 142 nautical miles from Irish territorial waters at a depth of 330 meters. The objective is to conduct the salvage while minimizing environmental impacts, particularly to Annex IV species, ensuring compliance with the Habitats Directive and relevant Irish regulations.

- **Project Overview**

The SS Ohio salvage operation is scheduled for the summer of 2024 and may extend up to two years. The operation site is located 142 nautical miles from Irish territorial waters at a depth of 330 meters. This remote location minimizes the risk of disturbing protected marine areas and Annex IV species. The project's primary goal is to recover non-ferrous metals while implementing measures to mitigate environmental impacts.

- **Baseline Conditions**

The seabed in the vicinity of the SS Ohio wreck is predominantly composed of clay, which supports limited marine life. Initial assessments have shown a sparse presence of diverse marine species, thereby reducing the likelihood of significant impacts on Annex IV species. Understanding the baseline conditions is crucial for planning operations that avoid critical habitats and protect marine biodiversity.

- **Annex IV Species in the Vicinity**

Several Annex IV species, including cetaceans such as dolphins and porpoises, may be present in the area. The remote location of the wreck, outside designated Natura 2000 sites, reduces the risk to other protected habitats. Identifying these species ensures that our operations are planned to minimize disturbances and comply with the strict protection requirements under the Habitats Directive.

- **Potential Impacts on Annex IV Species**

Direct Impacts

Physical Disturbance

The use of a DP2 system and precise ROVs minimizes seabed disturbance. By avoiding the deployment of anchors, the project ensures that the physical habitat of Annex IV species remains largely unaffected.

Indirect Impacts

Water Quality

Contamination Risks: There is potential for accidental spills of non-ferrous metals. Immediate containment measures are in place to mitigate any contamination.
Monitoring: Continuous water quality monitoring will be conducted throughout the operation to ensure no contaminants affect marine species.

Noise Pollution

Sources: Noise will be generated by vessel engines, cranes, and ROV operations.
Impact: This noise could potentially disturb cetaceans sensitive to underwater sounds.
Mitigation: Operations will be scheduled to avoid peak periods of cetacean activity, and quieter, electric-driven equipment will be used where possible.

Vibration

Sources: Crane operations and vessel movements.
Impact: Due to the depth of operations and the damping effect of water, vibrations will have minimal impact on marine life.

Mitigation Measures

Precise Equipment Usage

The DP2 system, mechanical grabs, and ROVs will be used to minimize seabed impact. Precise positioning will help avoid unnecessary disturbance to marine habitats.

Environmental Monitoring

Continuous monitoring of water quality and marine life will be conducted. Pre- and post-operation surveys will assess impact and recovery.

Spill Response Plan

SOLAS-compliant procedures for addressing accidental spills will be in place. Onboard containment booms, skimmers, and sorbent materials will be used, and the crew will be trained in spill response protocols.

Noise and Vibration Reduction

Quieter, electric-driven equipment will be used where feasible. Operations will be limited to periods of low biological activity, and soft start procedures will allow marine life to vacate the area.

Stakeholder Engagement

Regular communication with the Irish Coast Guard, EPA, NPWS, and other relevant bodies will ensure compliance with regulations. Transparency and consultation with local communities and stakeholders will be maintained.

Effectiveness of Mitigation

The implemented measures are designed to effectively minimize environmental impacts, ensuring compliance with relevant regulations and protection of marine ecosystems. Continuous monitoring and adaptive management strategies will address any unforeseen impacts promptly, ensuring the safety of Annex IV species.

- **Detailed Environmental Impact Assessment**

Seabed Impact

The use of precise equipment and the DP2 system will ensure minimal seabed disturbance. Targeted salvage operations will limit the impact on the surrounding marine environment, protecting the habitats of Annex IV species.

Water Quality

Continuous monitoring will detect and mitigate any contamination. Strict adherence to waste management protocols will prevent pollution, protecting water quality and marine life.

Noise and Vibration

Scheduling operations to avoid peak marine life activity and using noise-reducing technologies will minimize disturbance to cetaceans and other sensitive species.

- **Additional Considerations**

Climate and Weather
Operations are planned for summer months to avoid adverse weather conditions. Detailed weather assessments will ensure safe and efficient operations with minimal environmental impact.

Waste Management

Non-recyclable materials retrieved during salvage will be responsibly disposed of in compliance with international waste management standards.

Cultural Heritage

Historically significant parts of the wreck will be preserved. Detailed surveys and documentation will ensure minimal disturbance while allowing for the recovery of valuable materials.

- **Conclusions**

Based on the assessment, the salvage operation is unlikely to have significant adverse effects on Annex IV species, given the implementation of robust mitigation measures. Continuous environmental monitoring and adherence to best practices will help minimize potential risks, ensuring the operation complies with the MARA technical guidance.

By adhering to this structured approach, the salvage operations for the SS Ohio can proceed with minimal disturbance to marine life, ensuring compliance with regulatory requirements and protection of the environment. This comprehensive report, encompassing precise equipment use, continuous monitoring, stakeholder engagement, and adherence to international standards, demonstrates our commitment to conducting salvage operations responsibly and sustainably.