Assessment of Impact of the Marine Usage (AIMU)

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Introduction

This Assessment of Impact of the Marine Usage (AIMU) report assesses the environmental, social, and economic impacts of the salvage operation of the cargo of the SS Ohio, a World War I-era steamship wreck located 142 NM from Irish territorial waters. The project, led by Seatec NV, aims to retrieve valuable non-ferrous metals from the wreck while ensuring minimal impact to the environment and the wreck itself in compliance with international and national maritime regulations.

Project Description

- **Construction**

The project involves preparing the salvage vessel, N35, which is equipped with advanced navigation and salvage equipment. The vessel will be stocked with necessary provisions and tools for a three-month operational period at sea.

- **Operation**

The salvage operation will be conducted using a 100-ton crane and mechanical grabs. The vessel will position itself above the wreck using a DP2 system to minimize seabed impact, avoiding the use of anchors. The salvage process includes detailed mapping and marking of the wreck site using ROVs and USBL technology to ensure precise cargo retrieval.

- **Maintenance**

Routine maintenance of the salvage equipment and vessel will be carried out to ensure operational efficiency and safety. Daily inspections and briefings will be conducted to address any mechanical issues and to ensure compliance with safety protocols.

- **Decommissioning**

After completing the first stage of the salvage operation, the vessel will return to port for unloading and disposal of any retrieved waste materials, as of the non ferrous metals retrieved. The salvage operations may require discharge at port on different occasions. The wreck site will be monitored post-salvage to assess any environmental impacts.

Need & Alternatives

The primary need for the project is the recovery of valuable non-ferrous metals from the-cargo of the SS Ohio, which will provide economic benefits. Alternatives considered include leaving the wreck undisturbed, which would avoid potential environmental impacts but forgo economic gains. The non ferrous metals also pose an environmental hazard for marine life.

Planning & Development

The planning and development phase of the SS Ohio salvage operation involves careful coordination with stakeholders, comprehensive environmental assessments, and adherence to regulatory frameworks. Key regulatory bodies include the United Nations Convention on the Law of the Sea (UNCLOS), the Safety of Life at Sea (SOLAS) regulations, and Ireland's National Marine Planning Framework (NMPF). The project also complies with the National Monuments Acts to protect underwater cultural heritage and the Salvage Laws in international waters.

Environmental assessments have been conducted to identify potential impacts on marine ecosystems. These include seabed mapping, marine biodiversity assessments, and regular water quality monitoring. These efforts ensure that the operation minimizes environmental disturbances and protects sensitive marine habitats.

Stakeholder engagement is a critical component of the project. Key stakeholders include the Irish Coast Guard, Environmental Protection Agency (EPA), National Parks and Wildlife Service (NPWS), Maritime Area Regulatory Authority (MARA), National Monuments and Receiver of Wreck. Continuous communication and consultation with these groups ensure compliance with regulations, address concerns, and maintain transparency throughout the project lifecycle.

The SS Ohio salvage project aligns with the National Marine Planning Framework of Ireland by promoting sustainable development, protecting marine ecosystems, ensuring safety and regulatory compliance, and engaging stakeholders effectively. The project phases include preparation, execution, and post-operation report, all designed to achieve the project's objectives while safeguarding the environment and adhering to best practices.

Land & Soils

The seabed at the SS Ohio wreck site is predominantly composed of clay, which supports a range of marine life. The salvage operation is designed to minimize disturbance to the seabed by using precise equipment and methods. ROVs and USBL transponders will be used to map and mark the wreck site accurately, ensuring that the salvage activities are confined to specific areas and do not cause unnecessary disruption.

Disturbance to the seabed will be carefully managed, with efforts focused on retrieving non-ferrous metals from the cargo holds without impacting the surrounding environment. By avoiding the use of anchors and using the DP2 system, the project minimizes physical disruption to the seabed.

Water

Water quality is a critical consideration for the salvage operation. The primary environmental concern is the potential dispersion of non-ferrous metals, which could impact marine life and water quality. The project includes measures to retrieve the metals from the cargo holds with minimal impact on the surrounding water quality. Continuous monitoring of water quality parameters will be conducted to detect and mitigate any pollution.

Efforts will be made to prevent any accidental spills of fuel or other hazardous materials from the salvage vessel. The vessel is equipped with containment booms, skimmers, and sorbent materials to address any spills promptly. Compliance with SOLAS and SOPEP regulations ensures that the project adheres to the highest standards of water quality protection and the Oil Spill Plan ensures to mitigate any possible accidents.

Biodiversity

The wreck site is located outside designated protected marine areas or the Natura 2000 area, reducing the immediate risk to sensitive habitats. However, the project recognizes the importance of protecting marine biodiversity. Assessments of the marine species and

habitats in the vicinity of the wreck have been conducted to ensure that the operation does not adversely impact biodiversity.

Mitigation measures include avoiding sensitive habitats, minimizing noise and vibration, and conducting salvage operations during periods of minimal biological activity. Continuous monitoring of marine life will be conducted to detect any changes and implement additional mitigation measures if necessary. The project's approach ensures that marine biodiversity is protected throughout the salvage operation.

Fisheries and Aquaculture

The project area is not within a significant fisheries or aquaculture zone, reducing the risk of direct impacts on these industries. However, communication with local fishing communities is crucial to ensure that their activities are not adversely affected. Regular updates and consultations with these communities will be maintained throughout the project.

Efforts will be made to avoid disrupting fishing activities, and any concerns raised by local fishers will be addressed promptly. The project aims to recover valuable resources while ensuring that it does not negatively impact the livelihoods of local fishing communities.

Air Quality

The salvage vessel uses diesel and gasoline, and measures are in place to minimize emissions and adhere to air quality standards, meeting the Ship Energy Efficiency Management Plan (SEEMP) under IMO regulations. The project includes regular maintenance of the vessel’s engines and equipment to ensure optimal performance and reduce emissions. The use of advanced navigation and positioning systems also helps minimize fuel consumption and associated emissions.

Noise & Vibration

Noise and vibration will be generated by the salvage operations, primarily from the vessel's engines, cranes, and other equipment. These activities will be kept within acceptable limits to minimize the impact on marine life and human populations. The remote location of the wreck, far from populated areas, will not impact human populations.

Landscape/Seascape

The salvage operation will have a temporary visual impact on the seascape due to the presence of the salvage vessel and equipment. The project's remote location further reduces the visual impact on coastal communities and maritime traffic.

Traffic & Transport

The project will coordinate closely with maritime authorities to ensure safe navigation around the salvage site. The salvage vessel will operate in compliance with maritime traffic

regulations, and efforts will be made to avoid conflicts with other maritime activities. Communication with local maritime stakeholders, including shipping companies and fishing fleets, will be maintained to ensure smooth operations.

The project's approach ensures that maritime traffic is not unduly disrupted, and the safety of all maritime users is prioritized.

Cultural Heritage

The SS Ohio is a historically significant wreck protected under the National Monuments Acts. All salvage operations will ensure that the wreck is handled with care and respect. The project includes provisions for reporting any archaeological findings and ensuring that the salvage operation does not disturb historically significant areas, with the goal of only retrieving the cargo from the cargo holds.

Detailed surveys and assessments have been conducted to identify the different areas of the wreck, and efforts will be made to avoid disturbing these areas during the salvage operations. The project's approach ensures that cultural heritage is preserved while allowing for the recovery of valuable resources.

Population & Human Health

The project is located far from populated areas, minimizing direct impacts on human health. However, comprehensive safety protocols and emergency response plans are in place to protect the crew and the environment. These protocols include regular safety drills, personal protective equipment (PPE) for all crew members, and continuous monitoring of health and safety conditions.

Efforts will be made to ensure that any potential health risks, such as accidental spills or exposure to hazardous materials, are promptly addressed and mitigated. By adhering to strict safety standards, the project aims to protect the health and well-being of both the crew and the broader environment.

Major Accidents & Disasters

The project includes detailed risk assessments and emergency response plans to address potential accidents and disasters. These plans cover scenarios such as oil spills, equipment failures, and severe weather conditions. The vessel is equipped with emergency response equipment, including containment booms, skimmers, and sorbent materials, to address any spills promptly.

Regular safety drills and briefings will be conducted to ensure that all crew members are prepared to respond effectively to emergencies. By adhering to best practices and regulatory standards, the project aims to minimize the risk of major accidents and ensure a prompt and effective response if they occur.

Climate

The project takes into account weather conditions and climate impacts, with operations planned for the summer season to minimize weather-related disruptions. Detailed weather forecasts and assessments will be used to schedule salvage activities, ensuring that operations are conducted safely and efficiently.

Efforts will be made to minimize the project's carbon footprint, including optimizing fuel use and reducing emissions. By considering climate impacts and implementing mitigation measures, the project aims to contribute to broader efforts to combat climate change.

Waste

Waste materials retrieved during the operations, such as debris or non-recyclable materials, will be responsibly stored and disposed of upon arrival at port. The project includes comprehensive waste management practices that comply with international standards, ensuring that waste is handled and disposed of in an environmentally responsible manner.

Efforts will be made to recycle or repurpose as much material as possible, reducing the amount of waste sent to landfill. By adhering to best practices in waste management, the project minimizes its environmental impact and contributes to a sustainable maritime operation.

Material Assets

The retrieval of valuable non-ferrous metals from the wreck represents a significant material asset recovery. These metals, including brass and copper have substantial economic value and can be recycled and repurposed. The project aims to recover these materials efficiently and sustainably, contributing to economic development.

Efforts will be made to ensure that the recovery process does not compromise the integrity of the wreck site. By balancing economic benefits with environmental protection, the project aims to achieve a sustainable and responsible recovery of material assets.

Interactions

The project will interact with various stakeholders, including maritime authorities, environmental agencies, and local communities, to ensure compliance and address any concerns. Regular communication and consultations will be maintained to provide updates on the project's progress and address any issues that arise.

Efforts will be made to ensure that stakeholder interactions are transparent and collaborative, fostering trust and cooperation. By engaging stakeholders, the project aims to ensure that all parties are informed and involved in the decision-making process.

Summary of Mitigations

Mitigation measures include precise salvage techniques, regular environmental monitoring, stakeholder engagement, adherence to safety protocols, and waste management practices. These measures aim to minimize the environmental and social impacts of the salvage operation, ensuring that the project is conducted responsibly and sustainably.

Continuous monitoring and assessment will be conducted to ensure that mitigation measures are effective and to implement additional measures if necessary. By adopting a proactive approach to mitigation, the project aims to achieve its objectives while protecting the environment and contributing to sustainable development.

Consideration and Reasoned Conclusions in relation to Directives

- EIA Directive

The project does not fall under a class that requires an Environmental Impact Assessment (EIA) but follows best practices to minimize environmental impacts. Comprehensive environmental assessments have been conducted to ensure that the project adheres to the highest standards of environmental protection.

- WFD Directive

The operation complies with the Water Framework Directive by ensuring no significant adverse impacts on water quality. Continuous monitoring and mitigation measures are in place to protect water quality and ensure compliance with relevant regulations.

- MSFD Directive

The project aligns with the Marine Strategy Framework Directive by protecting marine ecosystems and biodiversity. Efforts will be made to avoid sensitive habitats and species, and continuous monitoring will be conducted to ensure that the project does not adversely impact marine life.

This report summarizes the comprehensive planning and mitigation strategies employed to ensure the salvage operation of the cargo from the SS Ohio is conducted responsibly, safeguarding the environment and complying with relevant regulations.