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CANADIAN COAST GUARD

U.S. Army Transport Vessel Brigadier General M.G. Zalinski

STATEMENT OF WORK

(Pollution Removal Solicitation)



December 08, 2018

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A Scope

A-1 Objective

The Canadian Coast Guard (CCG) requires an experienced salvage contractor (SC) to eliminate the threat of pollution from the United States Army Transport (USAT) vessel Brigadier General M.G. Zalinski, sunken at approximate position 53 31.60N, 129 34.93W, in Grenville Channel, British Columbia, Canada, at a depth of approximately 27 – 30 metres.

The Zalinski was carrying a quantity of Bunker C fuel oil in various tanks and, according to its cargo manifest, a number of other pollutants stowed in its cargo hold. Over the last 71 years, the hull of the Zalinski has degraded to the point where the rivets have corroded, allowing Bunker C oil to seep out. Although patches have provided temporary solutions, the hull continues to degrade over time allowing more Bunker C to seep out. No discharges of the other pollutants onboard the Zalinski have ever been detected, however their presence onboard the vessel pose a risk to the marine environment. As such, the CCG has taken measures now to eliminate this threat.

To contain any potential spill from this operation the Canadian Coast Guard will conduct spill response in the case of a pollution release. It will be necessary for the salvage contractor to work closely with the Canadian Coast Guard in order for this project to be successful.

This project must be completed prior to March 14, 2018, as soon as operational feasible, bearing in mind the potentially inclement weather conditions the north coast of British Columbia normally encounters throughout the fall and winter months.

A-2 Background

In September 2003, Canadian officials were alerted to the wreck's dangers when oil was discovered on the surface near the site. CCG received reports of oil pollution in the Grenville Channel approximately 88.5 kilometres south of Prince Rupert, B.C. Upon investigation, CCG discovered no obvious source of pollution.

A review of available historical records led investigators to believe that the wreck could be the *Brigadier General M.G. Zalinski*, which sank in that location on September 29, 1946, while transiting from Seattle, Washington, to Whittier, Alaska, carrying a cargo that included lumber, food, mail, vehicles and munitions

In October 2003, a remotely operated vehicle (ROV) survey identified the source of the oil pollution as a large overturned wreck resting on the slope of the channel at the mouth of Lowe Inlet.

Confirmation that the vessel was indeed the Zalinski was later received by the U.S. Government, who also provided a detailed cargo manifest. The Zalinski's identity was further confirmed by Canadian Navy divers who found markings on the ship's bell.

Over the last decade, several dives to the wreck site have been made to patch leaks and assess the condition of the Zalinski. During the dive in 2013, it was determined that the Zalinski's condition had visibly deteriorated to the point that a more significant release of the Bunker C oil is probable. As such, preventive measures were taken to eliminate this threat.

The Canadian Coast Guard conducted a pollutant removal operation in the fall of 2013, with the intent to inject steam into the tanks and pump out pollutants. During the initial assessment the covers of the tanks were found to be missing and steam injection was no longer an option. The recovery contractor then pumped the oil cold from the tanks after installing valves at strategic locations on the hull. This method recovered oil from the tanks; however oil migration to the valves was slow. When no further oil could be recovered, the Unified Command determined there would be another pump operation to recover any further residual oil that may migrate towards the valves.

Based on the Zalinski records, the capacity of the fuel tanks was approximately 700 cubic metres. It should be noted that although vessel drawings indicate the location of fuel tanks, subsequent damage to the Zalinski at the time of sinking, and deterioration of the interior structure over time, it is believed that migration of oil within the structure of the Zalinski has occurred.

The first pollutant recovery operation concluded in December of 2013. Oil recovered was; 48.5 cubic metres of bunker oil and 337.8 cubic metres of oily water.

During the valve inspection of the Zalinski in July of 2014 it was found that oil had migrated to the valves and required a further pumping operation. This operation took place winter 2015.

The second pollutant recovery operation concluded in April of 2015. Oil recovered was; 3.2 cubic metres of bunker oil and 61.4 cubic metres of oily water.

It has been determined that a third pollutant recovery operation is necessary due to migration of oil within the structure of the Zalinski. This operation will take place winter 2018.

A-3 Abbreviations

12/7 – Operational work hours – All feasible daylight hours, 7 days a week

CCG – Canadian Coast Guard

ER – Environmental Response

SC – Salvage Contractor

JHA – Job Hazard Analysis

JSA – Job Safety Analysis

A-4 Applicable Documents

As part of this Statement of Work, a series of supporting documentation is being provided to ensure that bidders have all the required information to develop an appropriate proposal and effective work plan. The list of supporting documentation is as follows:

1. Barge Layout 2018
2. Incident Narrative Zalinski Jan 2013
3. Zalinski Tank Plan
4. Vessel Plans
5. Mammoet Final Report 2013
6. Valve Inspection Report 2014
7. All Sea Enterprises Underwater Service Report 2015
8. Mammoet Sonar Survey Report 2011.

B Requirements

B-1 Task / Technical Specifications

The contractor is required to supply a tug and barge, crane, diving and pumping services including support equipment. The barge will need to be held in place at the shoreline above the *Brigadier General M.G. Zalinski*, while diving and pumping operations are occurring as part of the pollution recovery efforts. The crane aboard the barge will provide diver support, delivery of tools to the wreck site below and assist the Canadian Coast Guard crews with moving any spill equipment onboard the barge.

B-2 Oil Removal Operation

Objective 1 – Transport of oil, recovery and storage equipment to the site, decontamination of equipment as required, transport and unloading of tanks containing recovered pollutants in Prince Rupert for disposal by the CCG.

1. Loading in Prince Rupert, response, recovery and storage equipment for operational use at the Zalinski site on the Grenville Channel, one kilometre south of Lowe Inlet.
2. The contractor will supply lifting capacity to deliver divers and their tools to the wreck site below, as well as assist the CCG crews with moving equipment as required.
3. All pollutants recovered from the “Zalinski” or waste generated through decontamination processes will be stored on the barge for transportation and disposal after the operation.

4. Contracted vessels will be located in the Grenville Channel for quick access if required, for the duration of the operation.
5. Disposal of pollutants recovered from the “Zalinski” will be the responsibility of the Canadian Coast Guard once unloaded by the Contractor in Prince Rupert at the conclusion of the operation.

Objective 2 – Contractor is required to conduct a vessel oil removal / mitigation operation on the sunken U.S. Army Transport Vessel Brigadier General M. G. Zalinski. The following is a detailed description of work to be conducted:

1. The contractor must use existing valve extraction points left from previous operations. The CCG considers the removal of oil from the “Zalinski” complete when no oil is observed emanating from the discharge hose from any of the access points of the “Zalinski”.
2. The removed oil and other pollutants from the “Zalinski” will be stored in the tanks supplied by the Canadian Coast Guard. The Barge will be loaded and unloaded at Prince Rupert by way of ramp. Disposal of recovered pollutants will be the responsibility of the Canadian Coast Guard.
3. It is expected that some residual oil will remain in various locations of the “Zalinski” once pumping operations have terminated. As such, the contractor will not remove valves on the “Zalinski” hull allowing the CCG to visit the wreck site in the future and pump any residual oil that may collect over time.
4. During the pumping operation a diver will be relieved at the valve, unless unavoidable, in which case pumping must be stopped and valve closed until the relief divers arrives.
5. The contractor must clean the valve and hose prior to moving to another valve. Demonstration to CCG of the cleaning process is required prior to mobilization to Lowe Inlet.

C Contractor Resource Requirements

C-1 Tug/Barge Specifications:

1. The Contractor is to supply a ramp barge with minimum dimensions of 200' x 50'. Barge must have sidewalls or railing at a minimum height of 42" and maximum height of 60" around the perimeter. Barge must be of adequate size to safely accommodate the following equipment: Refer to “Barge Layout 2018” in section A-4: Applicable Documents, for layout of equipment.

Government Supplied Equipment

- i. CCG Command Trailer (20'x8'),
- ii. Boom trailer (20'x8'),
- iii. equipment trailer (16'),
- iv. 44' Baker Tank,

- v. 18,000 litre tank,

Contractor Supplied Equipment

- i. 3 Porta Toilets,
 - ii. Forklift,
 - iii. Crane,
 - iv. 2 Light Plants (Generator
 - vi. Divers equipment and trailer,
 - vii. Hyperbaric/Decompression chamber(s),
2. Contractor is to supply a tug to support barge operations and transport barge to/from Lowe Inlet site, staging, and loading from Prince Rupert BC.
 3. Contractor is responsible for loading the required gear (C-1- i-xi) onto the barge in Prince Rupert before proceeding to Lowe Inlet.
 4. Tug will be capable of towing the barge loaded with fore mentioned equipment, return from Prince Rupert to Lowe Inlet, and capable of holding the barge in place with the ramp down on the drying rocks while CCG ER and diving contractor crews work above the wreck.
 5. Barge must have the ability to hold its position throughout the full cycle of tide in foul weather conditions, but may be granted shelter within Lowe Inlet if conditions are so extreme that safety becomes an issue. Contractor is to provide safe operating parameters of their equipment, and if at any time conditions exceed the safe parameters Coast guard will direct contractor to seek shelter in an identified location. Pad eye anchor points for securing the barge are located on shore north and south of the work site.
 6. Coast Guard maintains the right to suspend operations for any reason at any time.
 7. The Contractor is responsible for the supply of a certified tug operator and crew for the entire project.
 8. Tug, Barge, and operators to be available for the duration of operation. Start and finish times may vary depending on high and low tides, CCG & Dive Supervisor are to determine schedule. This schedule will mainly take place during daylight hours that will not exceed 16 hours per day.
 9. Contractor will supply three (3) Porta Toilet units, clean and stocked.
 10. Contractor will supply 1 Forklift and certified operator. Fork Lift must be capable of lifting, at a minimum, 2500 lbs. to a height of 8-10 ft and have the ability to safely maneuver trailered equipment onboard the barge.
 11. Contractor will supply a minimum of two portable light towers (with generator, including fuel) to adequately illuminate the work area and ensure a safe operating theater when set up and stand down must take place in dark hours (46 footcandles minimum).

C-2 Crane Specification:

1. Certified Fixed Boom Crane with 100 ft. reach and lifting capacity of 6000lbs fully extended and rotating 360 degrees.
2. Contractor to supply qualified crane operator and certified man basket that meets all regulations and requirements for diving operations.

3. Crane must be available for the duration of the operation. Start and finish times may vary depending on high and low tides, CCG Lead & Dive Supervisor to determine schedule. This schedule will mainly take place during daylight hours, and will not exceed 16 hours per day.

C-3 Diving and Pumping Specification:

The contractor is required to obtain, mobilize, secure, demobilize and decontaminate all their resources for this operation. Securing arrangements for the contractor's resources at the wreck site must have minimal or negligible residual environmental impacts. The contractor should expect that the CCG Lead or his representative will be onboard the contractor's primary support vessel throughout the conduct of this operation (accommodation arrangements for CCG personnel are not required).

1. Method of diving is to be surface supplied decompression diving
2. Hyperbaric chamber(s) that meets applicable Regulations and Certifications.
3. The Contractor shall always have on site a qualified diving supervisor who is authorized to act on the Contractor's behalf to ensure work is properly and safely carried out. The diving supervisor shall be qualified to a level required to supervise the diving operation being carried out. At a minimum, the supervisor must be an unrestricted surface-supplied supervisor, as well as a hyperbaric chamber operator. If the operation is conducted using mixed gas diving, the supervisor must be a surface-supplied mixed-gas supervisor.

C-4 General

1. The bidder must take into consideration vessel traffic requirements for Grenville channel throughout the duration of their operation. Grenville channel is a busy route for ferries, cruise ships, and fishing vessels and will remain open throughout the operation.
2. Coast Guard will implement and enforce an emergency zone throughout the operation to maintain a safe working area for Coast Guard crews, Contractors, and maritime users in the local area.
3. The contractor must take all reasonable measures to ensure their operations have as minimal impact to the marine environment as possible.
4. As Grenville Channel is known for its large tides, excessive currents and inclement weather, which limits the operational window for conducting this operation, bidders will include methods for mitigating these factors in their proposal;
5. The contractor will run a self-sufficient operation without requiring CCG or other government departmental resources. The contractor is responsible to provide sufficient resources to work all feasible hours, during the day, 7 days a week. The contractor is responsible for the transportation of their equipment and personnel to and from the wreck location and for the lodging and food of their employees during the entire duration of the operation.
6. The contractor will be required to maintain daily logs of barge operations.
7. The contractor will be required to provide daily written situation reports, including:

- a. Description of work accomplished to date;
 - b. Current status (work in progress);
 - c. Next steps.
 - d. Progress against the projected work schedule.
8. In 2013, fifteen 6" gate valves were installed on Zalinski in the locations known to contain oil. Over the years, the valve handles have corroded and many are not useable or are missing entirely. Valves may be required to be opened by alternate mechanical means. See "Valve Inspection Report 2014" , and "All Sea Enterprises Underwater Service Report 2015" in section A-4: *Applicable Documents* for further information and photos of condition.

C-5 Operation Schedule:

Work is expected to take place between February 27th, 2018 and March 10th, 2018.

The duration of the operation is expected to be 5 to 7 days working on location, with the ability to remain on location for up to 10 days if weather becomes a factor.

After barge is loaded with CCG and Dive contractor items outlined in this Statement of Work, tug and barge will mobilize to Grenville Channel. Tug and barge are to be on-site at position 53 31.60N, 129 34.93W in Grenville Channel, by February 28, 2018. Contractor to assume one day for loading in Prince Rupert prior to arriving on site, and one day for unloading at project completion.

Diving and response operations will take place mainly during daylight hours; however there may be times when set up and standing down take place in dark hours.

The CCG Lead will declare the recovery operations complete once it is established that no oil is being recovered using reasonable efforts. End point will be met when recovered water has no visible black oil as determined by the Salvage Master and CCG Lead CCG Lead will then stand down Contractors and return to Prince Rupert.

Unloading of the barge will take place in Prince Rupert. Contractor will be responsible for unloading all equipment from the barge.

D Technical Requirements

As part of the bidding process, bidders must provide a proposal which includes the following:

D-1 Safety Plan

This plan should include the following information:

1. Barge safety procedures
2. Designation of Contractor's onsite Lead (Salvage Master)
3. Operation communication plan, including location of Emergency Stop (must include procedures to alert CCG of any discharges, potential discharges or other threats.)

4. Diving Safety Plan, including designation of Dive Supervisor and Mitigation Procedures.
5. Medical/First Aid Plan
6. Emergency / Evacuation plan

Oil Removal Operations Plan

This plan should include the following information:

1. The proposed methods and procedures to extract oil from the *"Zalinski"*.
2. Proposed method of opening valves with missing/corroded handles.

D-2 Other Contractor Requirements

1. A mobilization and work schedule indicating contractor resource mobilization, securing of vessels (including detailed mooring and / or anchoring arrangements), decontamination, demobilization, and associated milestones;
 - a. CCG Lead must coordinate their response resources with the Contractor's schedule; therefore, the schedule must be approved by CCG Lead prior to implementation.
 - b. Anchors are in place on the shoreline for securing barge to land.
2. An organizational plan and chart that clearly depicts the site organization for the operation, including all personnel, their names, and responsibilities.
3. In order to monitor this operation, the CCG will establish a Lead person at the site.
4. A detailed site safety plan including hazard monitoring, procedures for initial ongoing job safety analyses / job hazard analyses (JSA/JHA).
5. A detailed contingency plan to address any unexpected events which include, but not limited to:
 - a. Severe weather;
 - b. Equipment breakdown, critical equipment redundancy;
 - c. Proposed method of opening valves with missing/corroded handles.
 - d. Unexpected events occurring underwater during oil removal and pollutant assessment / mitigation operations.
6. A detailed communication plan depicting radio network and frequencies dedicated to supporting command, tactical and safety communications as well as supporting interface with CCG and other entities on site. On site communication, both written and oral, will be in English only.
7. Strategies to reduce impacts to local communities and the marine environment (i.e. noise, light and marine pollution, minimal impact on community vessel traffic, minimal impact on local fisheries, etc.).

D-3 Considerations

9. As this job is considered a Federal Government work site, the bidder will incorporate and comply with all applicable Canadian and Provincial standards and regulations in their proposed work to ensure compliance. Compliance will include but is not limited to :
 - Canada Coasting Trade Act ;
 - WCB and Canada Labour Code, Part II;
 - Maritime Occupational Health and Safety Regulations;
 - Part 24 of the Occupational Health and Safety Regulations of British Columbia;
 - Canada Shipping Act, 2001;
 - Fisheries Act;
 - Transport Canada Marine Acts and Regulations made pursuant to the Acts;
 - The Canadian Standards Association Diving Standards.
10. The CCG will assume the role of site Lead or assign a representative for this operation. The CCG Lead or representative will be located on site and will monitor and direct the work being conducted at the wreck site, in accordance with the submitted work plan. The CCG Lead may cease any portion of the operation if it is deemed unsafe or if there is a grave or imminent environmental or socio-economic threat, until such unsafe condition has been resolved. The contractor should note that various CCG resources, which may include vessels, helicopters, will be present throughout the operation to support CCG's monitoring operations.
11. The contractor should note that various CCG resources, including vessels and various spill response resources will be present throughout the operation and, without being obligated to the Contractor to do so; the CCG will conduct spill response operations in the case of a pollution incident. The Canadian Coast Guard will be responsible for oil spills resulting from the lightering operation of Zalinski. The Contractor will be responsible for any oil spill originating from their vessels, barges, or storage. The contractor is reminded that pursuant to the Canada Shipping Act, 2001, they are responsible for any pollution releases that occur during this operation as a result of their actions, including spills from the barge or platform that will hold oil and other waste pumped from the Zalinski that is not directly related to oil removal and mitigation operations.
12. The contractor must be aware that recovered product, in particular Bunker C oil circa 1946, may have different characteristics to present products. This may include, but not limited to, higher concentrations of hydrogen sulfide, lead and other contaminants. As such, appropriate safety precautions and other measures must be taken to ensure the safe handling and transportation of this product.
- 13.
14. Divers may be faced with high currents and shorter dive periods.
15. For maximum productivity divers will change out on the wreck, not on deck.
16. The average depth is 80 feet and maximum 90 feet.
17. The Contractor shall provide supplied personnel with all appropriate equipment, devices, tools, and machinery, including personal protection devices (PPE), ensuring all equipment is

maintained in proper working condition and is used in the prescribed manner as required under the Canadian Labour Code (CLC).

18. Accommodations and food supplied to all personnel must be in compliance with the Maritime Occupational Health and Safety Regulations.

E Estimating

E-1 For purposes of bidding, the Bidder must assume the following:

1. Bidder is to supply own travel, meals and accommodations during the operation for their personnel including any hired contractors and sub-contractors that are required on site.
2. Contractor will be required to store and transport liquid and solid waste (Bunker C) during the operation, and back to Prince Rupert for unloading.
3. CCG is responsible for transport and disposal of pollutants recovered from the "Zalinski" after they are unloaded in Prince Rupert.
4. Contractor will be required to supply crane with minimum lifting capacity of 6000 lbs.
5. Contractor will be required to access the wreck by the means of commercial diving.
6. Contractor will be required to perform under water work that includes inspection, connecting hoses and accessories, opening and closing valves and emergency repairs if necessary.
7. Contractor may be required to replace and fit valve handles as required (due to damage/corrosion) on the "Zalinski".
8. Contractor will be required to pump and transfer liquids (including oil) from the wreck into designated tanks and containers on the barge in a safe manner.
9. Contractor will be required to have in place emergency stops and valves on the pumping operations to prevent releases to the marine environment.
10. Contractor may be required to relocate barge if weather affect barges operations.
11. Contractor to supply anchoring and tie down systems to hold barge on station.
12. Tug support is required for the duration of the operation.
13. CCG will supply safety boat and operator.
14. CCG will provide debris protection during diving operations.
15. Contractor is responsible for all charges related to ramp/terminal fees for loading and unloading the barge.
16. Dates may be subject to change due to operational and weather related delays. Departure and arrival times are to be confirmed with the CCG Lead.

17. Diving Operation:

1. A total of fifteen (15) existing valves must be accessed and sequentially pumped.
2. After connection and preparations are completed, the actual pumping time for five valves must be at least three (3) hours, Five valves at least 2 hours and five valves at least 1 hour and the quantity of fluids (oil and oily-water) to be pumped from each valve location must be not less than three (3) cubic metres. Any changes to this must be authorized by the Coast Guard representative.
3. The CCG Lead will determine if additional pumping is required at any valve prior to moving to the next location; pricing subject to PWGSC 1379 action.
4. After completing the initial cycle of pumping at all of the identified valves, a second partial cycle of pumping must be conducted at valve locations which yielded any significant quantities of oil. The CCG Lead in conjunction with the contractor will determine which valves are to be pumped.
5. For the second cycle, the Bidder must assume that ten (10) of the valves must be accessed and sequentially pumped.
6. The actual pumping time at each of the valves for the second cycle must be not less than one (1) hour and the quantity of fluids (oil and oily-water) to be pumped from each valve location must be not less than two (2) cubic metres. These will be valves where oil was found in the initial round.
7. Contractor will supply a certified hyperbaric chamber that meets the requirements for the planned operation. Certification must be provided during the bid stage.

E-2 Un-scheduled requirements:

The Bidder must provide their bid price for the following un-scheduled requirements:

1. Additional on-site non-working days (for example 24 hour weather delays) for all equipment and personnel.
2. Additional on-site working days, including all applicable dive hours, for all equipment and personnel. (for example 24 hour operations including crane and operator)

E-3 Procedures

For purposes of bidding, the Bidder must assume the following procedures:

1. The CCG Lead will direct such additional pumping time as necessary subject to PWGSC 1379 action.
2. Regulations may preclude the storage of oil and/or oily-water in bottom tanks of a barge.
3. No fluids, once recovered from the wreck to the salvage barge, may be reintroduced to the ocean.
4. CCG will supply storage capacity on board the barge for recovered pollutants, and is responsible the disposal of pollutants recovered from the "Zalinski".
5. Vessels will only be permitted in Lowe inlet for mooring.
6. There will be no vessel to vessel re-fueling in Lowe Inlet (no exceptions).

F Deliverables

The final outcome of this project is as follows:

1. To reduce of the threat of pollution from the “Zalinski” as specified under requirements, as low as reasonably possible.
2. To ensure any oil removed from the “Zalinski”, or released into the marine environment, is contained and disposed of in accordance with Federal and Provincial laws
3. To ensure there is no environmental impact from the contractor’s equipment.
4. The Contractor must provide to CCG a summary report of daily operations, work conducted, including the type and total (in litres) of oil removed from the “Zalinski” and any lessons learned during the conduct of this operation. The contractor is to supply copies of all video and photos captured from the operation to the Canadian Coast Guard.
 - Oil pumping operations (surface and subsurface);
 - Any underwater impediments to the removal of oil or other pollutants.
 - Barge operationsProjected future operations that may be necessary

Deployment and demobilization operations shall not be part of the video. The report (in PDF format) and video (in DVD) format will be presented to the CCG within 1month of completion of operations.