

*PHASE A-ALEUTIAN ISLANDS RISK
ASSESSMENT
REQUEST FOR PROPOSALS*

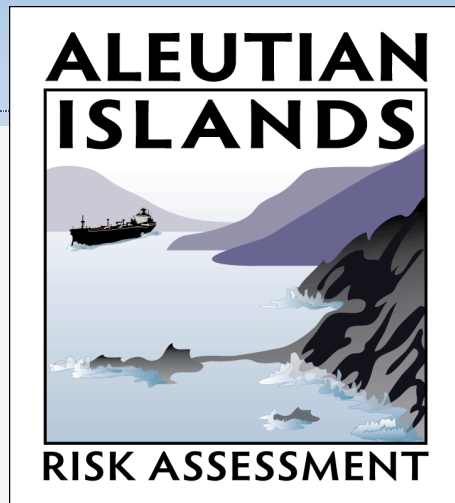


Table of Contents

Section One: Introduction and Instructions 3-7
Section Two: Standard Contract Information..... 8-11
Section Three: Background Information.....12-15
Section Four: Scope of Work.....16-27
Section Five: Project Deliverables and Timeline28-29
Section Six: Proposal Package Format and Content.....30-31

Section One

Introduction and Instructions

1.01 Purpose

The Aleutian Island Risk Assessment (AIRA) program was created to produce a comprehensive evaluation of the risk of vessel accidents and spills in the Aleutian Islands, with the ultimate goal of identifying risk reduction measures that can be implemented to improve the level of safety related to shipping operations in the region.

1.02 Source of Funds

Funding for the AIRA arose from the settlement of a criminal enforcement action by the United States against IMC Shipping Co. PTE. LTD. for violations of the Refuse Act, 33 U.S.C. §§407, 411, and the Migratory Bird Treaty Act, 16 U.S.C. §§703, 707(a). The violations at issue were related to the grounding of, and resulting spill of oil from, an IMC vessel operating in the vicinity of the Aleutian Islands. As part of the plea agreement settling this action, IMC was required to pay a total of \$3 million in “community service” to be used to fund the AIRA.

1.03 Program Trustees and Management

The Aleutian Island Risk Assessment is administered by the United States Coast Guard (USCG), in cooperation with the National Fish and Wildlife Foundation (NFWF) and the Alaska Department of Environmental Conservation (ADEC) / Department of Natural Resources (DNR). These three entities comprise the AIRA Management Team.

1.04 Location of Work

The primary location for the work and interface with the AIRA Management Team, Advisory Panel and Facilitators will be in Anchorage, Alaska. Travel to Dutch Harbor, Alaska will be necessary to evaluate the maritime infrastructure and attend meetings. The Contractor must provide its own workspace and office equipment

1.05 Proposal Packages, Contact Information and Request for Proposals Deadline

Applicants must submit seven (7) written copies, and an electronic copy on CD-ROM, of their Proposal Package, including the Proposal Transmittal, Technical Proposal and Cost Proposal, detailed in Section Six of this Request for Proposals (RFP), in a sealed envelope to the AIRA Program Manager. The Proposal Package must be addressed to:

National Fish and Wildlife Foundation
Attn: Jay Wright, AIRA Program Manager
1133 15th Street, NW Suite 1100
Washington, D.C. 20005

Proposal Packages submitted orally or by fax will not be accepted. NFWF will not be held responsible for an Applicant's inability to transmit or submit Proposal Packages.

The RFP Deadline is 5:00PM EDT, July 24, 2009. Proposal Packages must be postmarked no later than July 23, 2009. Proposal Packages shall remain open and valid for at least ninety (90) days from the RFP Deadline. Late Proposal Packages will not be opened or accepted for evaluation. Incomplete Proposal Packages will be disqualified.

Applicants may only submit one (1) version of the Proposal Package for evaluation.

1.06 Assistance to Disabled Applicants

Applicants with a disability may receive accommodation regarding the means of communicating this RFP or participating in the procurement process. For more information contact the AIRA Program Manager no later than ten (10) days prior to the RFP Deadline.

1.07 Scope of Work, Contract Timeline and RFP Timeline

The Scope of Work and Contract Timeline detailed in Section Four of this RFP reflect the recommendations of the Transportation Research Board of the National Academies' found in the scoping report titled: Risk of Vessel Accidents and Spills in the Aleutian Islands - Designing a Comprehensive Risk Assessment (TRB Special Report 293, issued 2008).

The Contract Timeline will begin on the date of signature of the final party to sign the Contract for Services (Contract) and conclude on the date that NFWF notifies the Contractor that the Contractor's services for the Aleutian Island Risk Assessment are complete in accordance with the agreed upon Scope of Work.

The approximate RFP Timeline and Contract Timeline are as follows:

Issue RFP	June 2, 2009
Pre-proposal Web Conference	June 25, 2009
RFP Deadline	July 24, 2009
Notice of Intent to Award	August 17, 2009
Contract Start	Late August - Early September 2009
Introductory Meeting in Dutch Harbor	First Week of September 2009
Contract End	April 30, 2010

1.08 Required Review

Applicants should carefully review this RFP for defects and ambiguous or objectionable material. Comments concerning defects and ambiguous or objectionable material must be made in writing and received by the AIRA Program Manager no later June 22, 2009. Protests based on any omission or error, or on the content of this RFP, will be disallowed if these faults have not be brought to the attention of the AIRA Program Manager, in writing, no later June 22, 2009.

1.09 Questions Received Prior to RFP Deadline

All questions must be in writing and directed to the AIRA Program Manager at:

Jay.Wright@nfwf.org

All substantive questions must be submitted no later than June 22, 2009. Some substantive questions, rather than a response, may require an amendment to the RFP.

All procedural questions must be submitted no later than July 17, 2009.

1.10 Pre-Proposal Web Conference

A Pre-proposal Web Conference will be held on June 25, 2009, to host any questions about this RFP or the Contract. More information about the conference will be provided to all entities that have registered with the Distribution List for Project Updates on the Aleutian Islands Risk Assessment Website. The AIRA Website can be found at the following link:

<http://www.aleutiansriskassessment.com/>

A written summary of the conference will also be provided to all entities that have registered with the Distribution List for Project Updates.

1.11 Amendments

If an amendment is issued to the RFP, all parties that have registered with the Distribution List for Project Updates on the Aleutian Island Risk Assessment Website will be notified.

1.12 Right of Rejection

Applicants must comply with all of the material and substantial terms, conditions, and performance requirements of this RFP. In conducting its activities relating to this RFP, the Applicant agrees to conduct all such activities in compliance with all applicable Federal, State, and local laws, regulations, and ordinances; and to secure all appropriate necessary public or private permits and consents. The Applicant should hold a thorough understanding of the legal implications of implementing the requirements of the RFP

before submitting the Proposal Package. An individual authorized to bind the Applicant to the provisions of the RFP must sign the Proposal Package.

Proposal Packages submitted from a debarred or suspended Applicant or one who is a target of legal proceedings, civil or criminal, that relate in any to the work proposed will be rejected.

The AIRA Management Team reserves the right to refrain from making an award if it determines that such action is in the best interest of the AIRA.

1.13 Disclosure of Proposal Package Contents

All Proposal Packages submitted for this RFP become the property of NFWF and may be returned only at the discretion of NFWF. All Proposal Package information, including price and cost information, will be held in confidence during the evaluation process and prior to the issuance of a Notice of Intent to Award. Thereafter, Proposal Packages will become public information.

Rejected Proposal Packages may be kept confidential and destroyed following the issuance of a Notice of Intent to Award upon written request. The written request must include a brief statement that sets out the reasons for confidential treatment and destruction of the Proposal Package.

1.14 Subcontractors

Applicants may plan to retain subcontractors to perform portions of the work specified in the final Contract. If an Applicant intends to use subcontractors, that Applicant must provide the following information concerning each prospective subcontractor in its Proposal Package:

1. Complete name and address;
2. Scope of work that will be performed;
3. Qualifications and experience relevant to the project;
4. Percentage of the work to be performed by the subcontractor.

Proposal Packages that do not include this information may be rejected.

1.15 Conflict of Interest

Each Proposal Package must include a statement identifying any individuals associated with the Applicant that have a possible conflict of interest (e.g., an individual employed by a member of the AIRA Management Team, etc.) and, if so, the nature and specific facts of that conflict.

1.16 News Releases.

News releases relating to this RFP, before, during or after the completion of the RFP Timeline shall not be made by the Applicant without the prior approval of the AIRA Program Manager.

1.17 Clarification of Proposal Packages

In order to determine if a Proposal Package meets the criteria for potential award of the Contract, communications between the AIRA Program Manager or AIRA Management Team and the Applicant may be necessary to clarify uncertainties or eliminate confusion concerning the contents of the Proposal Package. Clarification may result in a request by the AIRA Management Team for one or more material or substantive changes to the Proposal Package in order for the Proposal Package to receive continued consideration.

1.18 Meetings with Applicants

The AIRA Management Team may conduct meetings prior to awarding the Contract with selected Applicants who have met all RFP requirements. The purpose of these meetings will be to ensure full understanding of the requirements of the RFP and Contract, and possibly to explore certain elements of the Applicants' Proposal Packages in greater detail. As a result of these meetings, the AIRA Management Team may request one or more material or substantive changes to any Proposal Package and/or may require that certain terms or conditions be incorporated into the Contract.

1.19 Notice of Intent to Award (NIA) - Applicant Notification

Following the completion of the Contract negotiations the AIRA Program Manager will issue a written Notice of Intent to Award (NIA) and send copies to all Applicants. The NIA will list the names of all Applicants and identify the Proposal Package and Contractor selected for award of the Contract.

1.20 Award Size

The Contract Award shall not exceed Seven Hundred Fifty Thousand Dollars [\$750,000]. Applicants are encouraged to submit competitive Cost Proposals.

Section Two

Standard Contract Information

2.01 Contract Type

NFWF will retain the services of the Applicant, via a Contract for Services, at the request of the AIRA Management Team, acting on behalf of the USCG under the terms of the Alaska Maritime National Wildlife Settlement Fund governed by the Vessel Source Pollution Prevention and Compliance Fund Memorandum of Agreement between the USCG and NFWF.

2.02 Contract Negotiation

The AIRA Program Manager and/or the AIRA Management Team may negotiate the terms and provisions of the Contract with the Applicant that submitted the selected Proposal Package. Applicants submitting Proposal Packages agree to negotiate the specific terms and conditions of the Contract (which will reflect the provisions of this RFP and the Scope of Work) in good faith with the AIRA Management Team and/or AIRA Program Manager.

2.03 Contract Approval

Neither the issuance of this RFP, by itself, nor the AIRA Management Team's selection of a Proposal Package shall be deemed to obligate NFWF to enter into a Contract. The Applicant whose Proposal Package is selected by the AIRA Management Team will not become the "Contractor" unless and until a Contract satisfactory in form and substance to NFWF and the AIRA Management Team is negotiated and executed by NFWF and the selected Applicant. Accordingly, NFWF's payment and other obligations to any Applicant will commence only after the AIRA Management Team approves as to form (by way of signature to the final version) the Contract negotiated with the selected Applicant, and the selected Applicant and NFWF each execute the approved version of the Contract.

2.04 Proposal Package as a Part of the Contract

Part, or all, of this RFP and the successful Proposal Package may be incorporated into the Contract.

2.05 Communications

All notices, invoices, reports, and other communications required or allowed to be given under the Contract shall be by first-class mail (postage prepaid), facsimile (with telephone call required to confirm that fax has been received), PDF email, or overnight mail delivery by a nationally known courier and addressed using the contact information provided in the Contract. All notices, invoices, reports, and other communications may be sent by e-mail, but the final financial and programmatic reports required by the Contract must be provided in hard copy as well. Each party must agree to notify the

other promptly after any change in named representative, address, telephone, or other contact information.

2.06 Compliance with laws

In conducting its activities relating to the Contract, the Contractor must agree to conduct all such activities in compliance with all applicable Federal, State, and local laws, regulations, and ordinances; and to secure all appropriate necessary public or private permits and consents. The Contractor must expressly agree that that it will comply with Executive Order 11246 (Equal Employment Opportunity) as amended by Executive Order 11375 (Amending Executive Order 11246 Relating to Equal Employment Opportunity), and as supplemented by 41 CFR part 60, Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.

2.07 Insurance Requirements

The Contractor must agree to obtain and maintain all appropriate insurance against liability for injury to persons or property from any and all activities undertaken by the Contractor and associated with the Contract in any way and will have NFWF named as an additional insured on all such policies and provide NFWF with appropriate Certificates of Insurance reflecting such additions within sixty (60) days after the Contract is fully executed.

2.08 Indemnification Requirements

The Contractor must indemnify and hold harmless NFWF and the AIRA Management Team, and their respective officers, directors, agents, and/or employees in respect of any and all claims, injuries, losses, diminution in value, damages, liabilities, whether or not currently due, and related expenses (including without limitation, settlement costs and any legal or other expenses for investigating or defending any actions or threatened actions) arising from or in connection with the Contractor's performance of the work required by the Contract, including but not limited to, environmental laws, regulations, orders and decrees of whatsoever character or nature and damage or injury to persons and property.

2.09 Labor Requirements

The Contractor must comply with the provisions of the Copeland "Anti-Kickback" Act (18 U.S.C. 874), as supplemented by Department of Labor regulations (29 CFR part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"), that provide that a contractor shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled.

The Contractor must follow provisions of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-333, sections 102 and 107) as supplemented by Department of Labor

regulations (29 CFR part 5.) that requires contractors, that employ mechanics or laborers, to compensate those workers using specified calculations.

2.10 Access to Records

NFWF, the AIRA Management Team, and the Comptroller General of the U.S., or any of their duly authorized representatives, shall have access to any books, documents, papers and records of the Contractor that are directly pertinent to the Contract for purposes of making audits, examinations, excerpts or transcription for up to three years from the date of delivery of the final financial and programmatic report regarding the Contract.

2.11 Inspection & Modification-Reimbursement for Unacceptable Deliverables

The Contractor is responsible for the completion of all work set out in the Contract. All work is subject to inspection, evaluation, and approval by the AIRA Program Manager and/or the AIRA Management Team. The AIRA Program Manager may employ all reasonable means to ensure that the work is progressing and being performed in compliance with the Contract. Should the AIRA Program Manager determine that corrections or modifications are necessary in order to accomplish the intent of the Contract, the AIRA Program Manager may direct the Contractor to make such changes in its performance of the Contract and/or in the Contract or Scope of Work itself. The Contractor will not unreasonably withhold its consent to any such changes.

Failure of the Contractor to perform any material requirement of the Contract shall be grounds for NFWF to terminate the Contract. In this event, NFWF may require the Contractor to reimburse monies paid to it for unperformed, incomplete, or otherwise defective work under the Contract, and may also seek associated damages and any other remedies available at law or in equity.

2.12 Termination for Default

If the AIRA Program Manager determines that the Contractor has refused to perform the work required under the Contract or has failed to perform the work with such diligence as to ensure its timely and accurate completion, NFWF may, by providing written notice to the Contractor, terminate the Contract and direct the Contractor to cease performing part or all of the remaining work.

2.13 Contract Changes-Unanticipated Amendments

During the course of the Contract, the Contractor may be required to perform additional work to fulfill the purposes of the AIRA if so determined by the AIRA Management Team. That work will be in all cases substantially related to the general scope of the initial Contract. If and when additional work is required, the AIRA Program Manager will provide the Contractor a written description of the additional work and request the Contractor to submit a firm time schedule and price for accomplishing the additional work. The Contractor will not commence any additional work until the AIRA Program Manager has secured any required approvals necessary for authorization of the additional

work and has obtained a written Contract amendment executed by NFWF and the Contractor.

Section Three

Background Information

3.01 The Need for the Aleutian Islands Risk Assessment

NFWF, USCG, and ADEC have been working on a multi-phase risk assessment of maritime transportation in the Bering Sea and the Aleutian Archipelago. The December 8, 2004 grounding and subsequent oil spill that was the subject of the aforementioned criminal prosecution, from the vessel *M/V Selendang Ayu*, drove this effort, along with other marine casualties in the region.

Risk assessment is a systematic approach used to evaluate the level of safety of a complex system and to identify appropriate safety improvements. It is an established engineering discipline and has been used in the maritime industry in the past with varying degrees of success. Both the State of Alaska and USCG have had experience with maritime risk assessments, and both understand the complexity of the problem at hand, as well as the need for a well-designed process that would ensure a successful outcome. Consequently, in 2007 Alaska and USCG asked the National Academies to examine the available data and develop an appropriate framework that includes the most scientifically rigorous approach possible for a comprehensive risk assessment, and to design the assessment with a logical sequence of building blocks so that it could be conducted in discrete steps.

To conduct this study, the Transportation Research Board (TRB) within the National Academies empanelled the Committee for Risk of Vessel Accidents and Spills in the Aleutian Islands: A Study to Design a Comprehensive Assessment. The committee included individuals with expertise in risk assessment methods and practices; risk assessment data and analyses; risk analyses, with emphasis on evaluation and prevention of ship accidents; commercial shipping, with emphasis on North Pacific operations; navigation safety and voyage planning; USCG missions and operations related to waterway management and accident response; environmental protection; and regulatory approaches to ship safety and accident prevention.

The committee met three times. During a multiday meeting (October 29–November 2, 2007) in Alaska with a site visit to Dutch Harbor, the committee heard from stakeholders and reviewed available data pertinent to its charge. Stakeholders discussed specific hazards presented by Aleutian shipping operations and a range of possible mitigation measures they believed should be considered for implementation.

At its second meeting, held January 7–8, 2008, in Washington, D.C. the committee received presentations on the following topics:

- Methodologies and approaches in recent and ongoing assessments in the United States (Puget Sound and San Francisco)
- Methodologies and approaches in recent assessments in Europe
- Methodologies employed in limited-scope risk analyses

Spill response and environmental impacts:

- Vessel casualties and oil outflow modeling
- Impacts from spills of persistent oils
- Commercial vessel operations/practices
- Spill risk from a ship owners Protection and Indemnity (P&I) Club perspective
- Availability and accessibility of USCG data

The efforts of this committee culminated with the completion of their report titled: Special Report 293- Risk of Vessel Accidents and Spills in the Aleutian Islands- Designing a Comprehensive Risk Assessment. An electronic copy of the report (Special Report 293) can be found at <http://onlinepubs.trb.org/Onlinepubs/sr/sr293.pdf> The risk assessment described in this RFP follows the process established in the National Academies' report and will be conducted in two phases.

3.02 Risk Assessment Limits or Bounds

The risk assessment for shipping operations in the Aleutian Islands specifically addresses the risk of spills from marine vessels transiting through, near and/or servicing the region described below. As recommended in the TRB report, the following bounds will be applied to this study:

Hazardous Substances

The risk assessment will consider spills of petroleum products, bulk chemicals, and packaged hazardous containerized cargoes moving through and/or in the vicinity of the Aleutian Islands (within U.S. EEZ). A hazardous substance includes those substances that meet the definition under Federal and State of Alaska statutes and/or regulations. Risks related to the introduction of invasive species (rats) should be considered on a qualitative basis.

Types and Sizes of Vessels

All marine vessels of more than 300 gross tons (GT) carrying hazardous substances as defined under Federal and State of Alaska statutes and/or regulation and all smaller vessels having a fuel capacity of at least 10, 000 gallons should be considered. Vessels transiting the North Pacific Great Circle Route between the west coast of the United States and Canada and the Far East constitute the traffic flow of primary public concern, since the largest oil spills in recent years were the result of accidents involving cargo ships on innocent passage through Unimak Pass. The risk assessment should consider all vessels above 300 GT, which include but are not limited to the following types:

- Containerships,
- Bulk carriers,
- General cargo vessels,
- Gas carriers,
- Roll-on/Roll-off vessels and pure car carriers,

- Cruise ships,
- Crude oil carriers,
- Product tankers,
- Tank barges,
- Cargo barges,
- Chemical carriers,
- Fish processors,
- Fishing vessels,
- Tugs, including those less than 300 GT, and
- Government vessels

The study should include vessels currently transiting the region, as well as those that can reasonably be anticipated to do so during the 25-year study period (discussed below).

Accident Types

The risk assessment and proposed risk reduction measures should focus on spills from accidents. Major accident categories to be considered are collisions, allisions, powered groundings, drift groundings, foundering, structural failures, and fires and explosions. The risk assessment excludes operational and intentional discharges from ships.

Geographic Region

Vessel traffic operating in the following geographic region:

- North boundary, 55°30'N;
- South boundary, 50°N;
- West boundary, 170° E and international date line; and
- East boundary, 160°W.

The study region is intended to cover vessels transiting the vicinity of the Aleutian Islands, those calling on ports in the Aleutian chain, and fishing boats, processors, and other vessels operating in the region. This includes vessels on innocent passage transiting immediately to the south of the Aleutian chain. Should drift grounding simulation indicate that vessels transiting outside the above boundaries pose a significant risk to the Aleutian Islands, the boundaries should be adjusted accordingly. Whereas the assessment of vessel traffic and the locations of spill accidents should be restricted to the study region, the environmental and socioeconomic consequences of these spills may extend outside the study region, depending on the fate of the spill.

Timeframe

The study time period is 25 years, from 2009 to 2033. The study period identified is sufficiently long to provide a basis for life-cycle cost-benefit analysis, and to reflect anticipated changes in vessel traffic and vessel types and designs, as well as the impact of known and reasonably expected regulatory changes.

3.03 Risk Assessment Organization and Management Structure

As set forth in the TRB report, the AIRA organization and management structure consists of four groups: a Management Team, an Advisory Panel, a Risk Analysis Team, and a Peer Review Panel. USCG, ADEC, and NFWF constitute the AIRA Management Team. NFWF is the entity responsible for administering the funds dedicated to paying for the AIRA. A priority for the Management Team, following the recommendations of the TRB report, was the establishment of the AIRA Advisory Panel.

The AIRA Advisory Panel represents a structured stakeholder/participatory approach intended to build trust, clarify the values and goals that should inform the assessment, incorporate local information and knowledge that could otherwise be missed, and potentially provide a path to organizational learning and policy change that might not otherwise be available. The AIRA Advisory Panel consists of stakeholders and experts who can offer local knowledge and expertise on all issues pertinent to the assessment, such as local infrastructure, relevant industries, waterways and their navigation, weather, and habitats. The AIRA Advisory Panel includes representatives from the following:

- Municipalities
- Environmental organizations/interests
- Subsistence users
- Landowners and managers (e.g., Maritime National Wildlife Refuge)
- Different sectors of the fishing industry
- Industry representatives (including salvors, pilots, mariners, and port authorities)
- Government agencies offering special expertise (e.g., NOAA)
- Others with expertise in local weather, habitats, waterways, infrastructure, etc.

The AIRA Advisory Panel is intended to operate as an independent entity from the AIRA Management Team. A list of individuals appointed to the AIRA Advisory Panel and the stakeholder category they represent can be found on the public program website at:

<http://www.aleutiansriskassessment.com/advisorypanel.htm>

A second priority for the Management Team, also following the recommendations of the TRB report, is to establish an AIRA Peer Review Panel. The Peer Review Panel will consist of approximately five experts in the area of:

- Marine risk assessments
- Environmental modeling
- Assessment of socioeconomic impacts
- Human factors evaluation

The AIRA Management Team will appoint members of the Peer Review Panel after consultation with the Advisory Panel. The Peer Review Panel's role will be to perform a review of the approaches, methodologies, models, and algorithms used by the Contractor (or Risk Analysis Team) to ensure that assumptions are based on the best available data, that uncertainties have been properly described, that analyses have the appropriate rigor for the level of assessment, that the work is of a consistently high quality, and that findings are properly justified.

Section Four

Scope of Work

4.01 Scope of Work

The risk assessment will be broken down into two (2) distinct phases. There will be multiple tasks within each phase. The two phases, per the recommendation of the TRB report, are as follows:

Phase A- Preliminary Risk Assessment: Semi-quantitative Studies

Phase B- Focused Risk Assessment

The work required under the Contract (hereafter also called the “Project”) will be limited to Phase A.

Phase A Preliminary Risk Assessment: Semi-quantitative Studies

The purpose of the Phase A Preliminary Risk Assessment is to identify the more significant risks related to spills from shipping and provide a basis for the identification and initial ranking of possible risk reduction measures. This semi-qualitative study is intended to provide a high-level understanding of relative risks taking into consideration types of vessels and hazardous substances, and the locations where discharges are most likely to occur. The Preliminary Risk Assessment should utilize relatively simple tools, avoiding detailed event tree analysis and complex simulation models to the extent practical. The Phase A studies should rely primarily on historical data, expert opinion, and lessons learned from prior studies.

Where possible, historical data should be used to determine traffic and commodity flows, as well as the likelihood and size of spills. Care must be taken when applying these historical data. Reporting standards are rarely consistent within a given database, and no single database is comprehensive. Although data specific to the local region are generally preferred, the sparseness of accident and spill data for large vessels in the study region will necessitate use of national and international data on spill frequency and size to generate statistically significant estimates. When data are unavailable or characterized by considerable uncertainty, the use of expert judgment, simulations, and other analytical models may be required. The use of simulations or expert opinion to predict the likelihood of major spill events should be minimized to the extent possible. The uncertainty of the estimates derived should be carefully assessed, and sensitivity analyses carried out as appropriate.

Specific tasks and sub-tasks to be performed by the Contractor within the Phase A Preliminary Risk Assessment are as follows:

Task 1- Traffic Study

Perform a vessel traffic study to characterize the existing fleet and traffic in the region and the quantities of oil and other hazardous cargoes being moved. Project growth in trade, changes in vessel design and size, and the impacts of known and reasonably

expected regulatory changes. Use this information to project the fleet makeup over a 25-year study period (2009-2034).

1A: Determine the makeup and traffic patterns of the fleet transiting the Aleutian Islands or operating in the study region.

An analysis of traffic through the study area should be developed using the best available data. Automatic identification system (AIS) vessel traffic data have been compiled for transits through Unimak Pass since 2006. These data sources provide the most accurate information on the number, types, and routing of larger vessels transiting the Great Circle Route through the Aleutians. Data for ships transiting immediately south of the Aleutian chain are less available. To the extent practical, other data sources, such as the USCG Puget Sound vessel tracking system (VTS) and the Canadian Coast Guard Tofino VTS should be considered. These data sets provide tracking information for vessels arriving at and departing from the Seattle, Washington and Vancouver, British Columbia areas, and should provide an indication of the routing of vessels calling on the region and whether tank vessels are laden or in ballast. Communication with weather routing services and shipping companies may also be required to augment these data.

Determinations of concentrations of fishing vessels, locations of seafood processors, movements of barges transporting refined products to the outer Aleutian Islands, and other local vessel movements will require review of local data sources, such as the Marine Exchange of Alaska which operates an AIS network in some regions of the Aleutians, National Marine Fisheries Service Alaska Region (Sustainable Fisheries) and the Alaska Commercial Fisheries Entry Commission, as well as communication with pilots and industry representatives.

The various data sources should be used to develop best estimates of traffic for vessels carrying at least 10,000 gallons of fuel or other oil product and /or significant quantities of hazardous cargo. These estimates should provide a picture of traffic patterns, broken down by vessel types, age of vessels by type, amounts and types of hazardous substances, and seasonality. Ship data should be evaluated to determine design characteristics required for the risk analysis, such as the percentage of single-hull versus double-hull tank vessels, the extent of double-hull protection provided for fuel tanks, and the range of bunker tank capacities applicable to the various vessel types.

The categories of vessel types and sizes should be sufficiently detailed to allow assessment of measures that may be particular to a given trade or vessel type. The vessel categories should include at least the following:

- Product Tankers (laden and in ballast)
- Crude oil carriers (laden and in ballast)
- Tank barges (laden and in ballast)
- Liquefied natural gas (LNG) carriers

- Container ships of less than 4,500 20-ft equivalent units (TEUs)
- Container ships of more than 4,500 TEUs
- Bulk carriers of less than 60,000 tonnes deadweight tonnage (DWT)
- Bulk carriers of more than 60,000 tonnes DWT
- Ro-Ro's and vehicle carriers
- Other cargo ships, government vessels, fishing vessels, tugboats, and other smaller vessels

1B: Estimate the current movements of cargo oils, containers, bulk cargoes, bulk chemicals, and other commodities through the study region, and develop yearly estimates for the movement of cargoes through the region over the 2009-2034 study period.

Commodity movements through the Aleutian Islands, as well as the possible introduction of invasive species (rats) should be estimated on the basis of fleet and traffic data, together with data from the various national port databases documenting trade. Considerable uncertainty exists because of global warming and peak oil concern, and alternative growth scenarios should be investigated. Historical growth in trade should also be reviewed. To forecast oil and dry cargo transport quantities for the period of 2009-2034, data should be solicited from the various trade organizations, the U.S. Department of Energy, the Maritime Administration, U.S. Minerals Management Service, Alaska Department of Natural Resources Division of Oil & Gas, U.S Arctic Research Commission, ports, and other sources.

1C: Project the fleet makeup over the study period, anticipating likely changes in vessel size and design.

Over the 25-year study period, changes to the design of ships and barges transiting the Aleutian Islands can be anticipated. The growth in ship size will reduce the number of vessels trading, but the average fuel tank capacity of ships will increase. As containerships represent a significant portion of the vessels on innocent passage through Unimak Pass, the growth in vessel size will have a bearing on longer-term spill risks. Regulations adopted by IMO and applicable to the international fleet also will influence the design and arrangement of ships. The impact of these regulations (e.g., OPA 90 and MARPOL double-hull regulations for tankers; MARPOL Regulation 12A; MARPOL Regulation 23, etc.) on ships expected to transit the Aleutians during the study period, including any phase-in period for the regulations' implementation, should be considered.

1D: Develop yearly estimates for vessel traffic and the movements of ship's fuel oil (bunkers), cargo oil, and hazardous chemicals through the study region for the 2009-2034 period. Forecast changes in the fishing fleet.

The understanding of existing vessel traffic gathered in Task 1A, the forecasts of growth in trade and commerce derived in Task 1B, and the characterization of the future fleet obtained in Task 1C should be used to project the traffic flow and fleet makeup for the study period. When projecting movements of petroleum products, consideration should be given to the anticipated increase in exploration for and the production of gas and oil in the Bering Sea, the Chukchi Sea, and other Arctic regions.

1E: Aleutian Traffic Study Report

Submit a draft report that includes the findings from Task 1A through 1D to the AIRA Management Team, Advisory Panel and Peer Review Panel for review. Based on comments received, finalize the report.

Task 2- Baseline Spill Study

Develop the spill baseline over the 25-year study period (2009-2034) as the product of the projected movements of oil and hazardous cargoes and the estimated average spill rates. Risk related to the introduction of invasive species (rats) should also be considered on a qualitative basis. Frequency is developed in terms of accident return period for each type of ship and accident. Consequence is initially expressed in terms of the expected or average spill outflow, which together with the spill frequency defines the spill rate. This projection should be designed to provide an understanding of the most important hazards and serve as a baseline for later assessment benefits.

2A: Estimate the spill frequency and projected spill size distribution by vessel type

The baseline spill study should include the following accident types:

- Collision
- Drift Groundings
- Powered Groundings
- Allisions
- Structural Failures
- Foundering
- Fire/Explosions

Historical spill statistics for the study area should be used to determine the distribution of spill sizes and the frequency of accident scenarios leading to the outflow of oil and other hazardous cargoes. Data from the USCG, State of Alaska, and salvors, as well as other local records, should be reviewed. Given the scarcity

of significant spill events in the region, it will be necessary to augment the local spill data with data on U.S. and international spill events.

Because of the scarcity of data and the evolution of ship designs, it will be necessary to use expert opinion and limited numerical simulations to determine accident frequency. The scarcity of data on outflow from cargo tanks on double-hulled tankers as well as double-hulled bunker tanks means that probabilistic oil outflow analysis based on historical damage data or simulation will likely be needed to develop spill size distributions for collisions and groundings. These estimates should be verified against historical data for reasonableness.

The overall estimate of spillage should be subdivided among major ship categories. At a minimum, the following categories should be considered:

- Tank Ships
- Tank Barges
- Containerships
- Other large commercial vessels, i.e. cruise ships, bulk cargo vessels, etc.
- Fishing vessels, by size less than 300 GT and 300 GT and larger.
- Other small craft

Separate statistics should be provided for persistent and non-persistent oils. Multiplying the frequency of spills by the average spill size will yield an overall estimate of spillage (in terms of barrels per year).

This spill study should also provide the information needed for Task (3) and Task (5) assessments. The types of accidents and the vessels involved should be mapped against indicators of consequence, such as the types of hazardous substances spilled, the maximum expected outflow (upper limit), the distribution of spill size, the likely location of spills, the seasonality (likely time of year) of spills, and safety implications in terms of loss of life and serious injuries.

The projection developed should assume full implementation of the Oil Pollution Act of 1990 (OPA 90) and International Maritime Organization (IMO) regulations that have already been adopted. Examples of regulations that will impact the environmental performance of ships built during the study period include the

International Convention for the Prevention of Pollution from Ships (MARPOL) Annex I, Regulation 23, Accidental Oil Outflow Performance, which specifies subdivision requirements for the cargo spaces of oil tankers, and MARPOL Annex I, Regulation 12A, Oil Fuel Tank Protection, which specifies double-hull or equivalent protection for fuel tanks.

The baseline projection should assume that no additional risk reduction interventions/measures would be implemented during the study period. The baseline will represent a hypothetical future without the potentially beneficial effects of the risk reduction options being investigated in the AIRA.

2B: Develop the oil spill baseline over the 25-year study period as the product of the projected movements of oil and other hazardous materials and the estimated average spill rates

The product of the projected quantities of oil and other hazardous materials moved over the 25-year study period by each vessel type and the spill rate for that vessel type provide the oil spill baseline.

2C: Baseline Spill Study Report

Submit a draft report that includes the findings from Task 2A and B to the AIRA Management Team, Advisory Panel and Peer Review Panel for review. Based on comments received, finalize the report.

Task 3- Characterizing Spills from the Highest-Risk Accidents

Using the findings of the traffic and baseline spill study produce a matrix that identifies for the higher risk accidents the following information:

- Type of accidents (e.g., drift grounding, collision)
- Type of vessel involved (e.g., containership, tank vessel, fishing boat)
- Type of hazardous substance or oil spilled (e.g. chemicals, heavy fuel oil, marine diesel)
- Representative spill size (50th and 95th percentile spill volume)
- Likely geographic location(s)
- Possible introduction of invasive species (rats)
- Seasonality (likely time of year)
- Biological seasonality component (abundance of wildlife)

This information will be used as input for the Phase A consequence analysis or Task (4). Determine which accidents are of sufficient concern to merit assessment of risk reduction measures. This information will be used during various discussions with the Advisory

Panel and Management Team of potential risk reduction measures and as input into the accident scenario and causality analysis in Task (5).

Task 4- Phase A Consequence Analysis

Perform a preliminary spill trajectory and fate analysis for the spills and locations identified in Task (3) above. The intent is to gain an understanding of the relative impact of spill size; types of hazardous substance spilled, and spill location on environmental consequences. Perform a qualitative assessment of the potential resource damage and socioeconomic impact of a representative mix of spill events that the Contractor will identify in consultation with the AIRA Management Team and Advisory Panel. Identify the dominant accident types from among the universe of spill events. The consequence analysis with respect to the selected spill events should be a high-level assessment of natural resource vulnerability, rather than a comprehensive assessment of biological impact and costs of natural resource damage. The following is suggested for the analysis, again subject to refinement based on consultation with the AIRA Management Team and Advisory Panel:

- Spills of two to four types of substances should be evaluated. At a minimum, heavy fuel oil and diesel oil should be evaluated. Based on the projected spill rate data developed during the baseline spill study, it may be decided that certain chemicals or other products, such as crude oil, marine gas oil, merit inclusion in the consequence analysis.
- Three to five geographic spill locations should be evaluated. These locations should include those where spills (particularly large ones) are likely to occur and where environmental and/or economic impacts are expected to be most severe, including the risk associated with the possible introduction of invasive species (rats) on a qualitative basis.
- Two or three sizes of spills should be evaluated, including the 50th and 95th percentile spill volumes (a typical and a large spill).

The physical fate model employed should be three-dimensional and capable of calculating mass balance for relevant spaces, including the water surface, the shoreline, the water column, and sediments. The model should permit evaluation over time of the surface oil distribution and concentrations of oil in the water column and sediments. The environmental conditions (wind, currents, tides, and waves) input to the models should be derived from local long-term statistical data, with the date and time varied randomly to provide a range of weather conditions.

For this preliminary consequence analysis, the extent and concentration of oil should be used as a surrogate for impact on natural resources. To provide an indicator of impact on seabirds and mammals, exposure should be expressed in terms of water surface area oiled, geographic extent of shoreline oiling, and percentage of oil washed ashore. To

provide an indicator or impact on fish and invertebrates, the volume of water affected above thresholds of concern, as well as the area of bottom sediment contamination, should be determined. During this preliminary consequence analysis, assessment of socioeconomic impacts should be qualitative and included as an important aspect of evaluating the overall consequences of a spill, despite challenges inherent in attempts to quantify these types of impacts.

Task 5- Accident Scenario and Causality Study

For the dominant accident types identified in Task (3), determine representative accident scenarios. These scenarios will by their nature describe principle causes. Probabilities of occurrence for these scenarios should be assigned and presented with the associated consequences (in terms of expected spill sizes, types of hazardous substances spilled, possible introduction of invasive species-rats). The confidence level in the probability figures should be clearly stated, as it is recognized that many of these figures will have a high level of uncertainty.

To the extent practical, the historical data used in the baseline spill study should serve as the basis for these probabilities. In many of the casualty and incident reports, cause is not clearly specified. Analysts will need to rely on sources from outside the Aleutian Islands, other risk assessments, and expert opinion in conducting this study of accident scenarios and probabilities.

The Contractor should make an initial attempt to assign frequency and consequence categories to each scenario. A draft report will be provided to the Advisory Panel and Management Team for review and comment. The Risk Contractor will finalize the report.

Task 6- Participate in Meetings of the Management Team and Advisory Panel Regarding Their Qualitative Assessment and Prioritization of Risk Reduction Options

To complete the Phase A preliminary risk assessment, the Advisory Panel and Management Team will perform a qualitative assessment of risk reduction options. This effort will include populating the risk matrices, compiling a list of risk reduction options, qualitatively assessing the benefits and costs of those options, and prioritizing the options. The Contractor will be required to be available during these deliberations to provide background information and insight into the Phase A investigation. The Contractor should be prepared to make an initial, qualitative effort to estimate the benefits and costs of risk reduction options as part of this effort.

Task 6A- Assist with the Development of Rankings for Accident Scenarios

Develop frequency and consequence categories and risk matrix format. The Contractor will assist the Advisory Panel and Management Team with determining the frequency and consequence categories that are appropriate, and the criteria to be applied to each category. These criteria are for purposes of ranking the scenarios and accidents by level of risk and eventually effectiveness

of risk reduction options and will not necessarily be the basis for the final decision on which options will be implemented.

Task 6B- Assign frequency and consequence categories to each scenario

The Contractor will make an initial attempt to assign frequency and consequence categories to each scenario. In doing so, the Contractor should consider the results of the semi-quantitative Phase A studies, as well as the uncertainty data. The Advisory Panel, in consultation with the Management Team and Contractor, will review these tables and make adjustments where deemed appropriate.

Task 6C- Assign Risk Numbers (Risk Priority Scores)

The frequency and consequence categories should be combined to form a risk priority score. The Advisory Panel, in consultation with the Management Team and Contractor, will develop a risk priority matrix format suitable for the risk assessment.

Task 6D- Rank Accident Scenarios by Level of Risk

Using the priority risk matrix, scenarios should be consolidated into four or five risk categories. The Advisory Panel, in consultation with the Management Team and Contractor, will attempt to further rank the accident scenarios within each group, producing an overall ranking of accident scenarios.

Task 7- Evaluation of Risk Reduction Options

This task evaluates the effectiveness, order-of-magnitude cost, and ease of implementation of various risk reduction options. (The TRB report committee compiled an initial list of potential risk reduction options that is included as Appendix A to the TRB report; this initial list should be revisited, refined, and possibly expanded upon by the AIRA Advisory Panel, the AIRA Management Team, the Contractor, and other stakeholders both concurrently with the earlier steps in Phase A and also after the results of the vessel traffic, baseline oil spill, and Phase A consequence studies are available.) The Contractor will make an initial, qualitative effort to estimate the benefits and costs of the risk reduction options identified on a final list to be prepared by the AIRA Advisory Panel and Management Team. The Advisory Panel, in consultation with the Management Team and Contractor, will review these estimates and adjust them where deemed appropriate. The Contractor will produce a risk reduction report based on adjustments and comments received by the Advisory Panel and Management Team.

Task 7A- Estimate the benefits of the risk reduction measures

The Contractor will assist the Advisory Panel and Management Team with estimating the benefits of the risk reduction measures. The risk priority matrix developed in Task 6C will be used to generate an overall risk reduction score to evaluate the effectiveness of the risk reduction options. A given risk reduction measure may be effective for a number of different accident types, and the cumulative impact of the measures must be considered when they are ranked.

Task 7B- Estimate the cost of the risk reduction options and the cost-benefit ratio.

The Contractor should be prepared to assist the AIRA Advisory Panel and Management Team with categorizing the risk reduction options based on cost and estimating a range of costs for each such category. After the cost categories have been developed, the Contractor will make an initial attempt to assign cost categories to the risk reduction options. Costs should include industry compliance costs, costs borne by the public, and enforcement costs. A cost-benefit ratio can be developed by dividing the relative risk reduction score determined in Task 7A by the cost rating.

Task 7C- Assess the ease of implementation of risk reduction options.

The Contractor will assist the AIRA Advisory Panel and Management Team with assessing the ease of implementing the various risk reduction options. The practicality of implementing and enforcing a risk reduction measure should also be evaluated, as well as the regulatory path for implementation (i.e. International Maritime Organization, federal, state and/or local). Ease of implementation should be assigned a category rating to be applied to the range of potential risk reduction measures.

Task 7D- Assess the potential unintended negative consequences of risk reduction options.

The Contractor will assist the AIRA Advisory Panel and Management Team with assessing the unintended negative consequences of the various risk reduction options and a qualitative rating. For example, requiring vessel routing schemes could lead to vessels consuming more fuel by taking alternative routes or engaging more extreme weather conditions increasing risk of a maritime incident resulting in loss of life, property and environmental impacts.

Task 8- Prioritization of Risk Reduction Options

The final task of the Phase A assessment is ranking the risk reduction options taking into account all of the factors applied in Task 7A-C. This effort will be undertaken primarily by the Advisory Panel and Management Team. The Contractor will participate by providing support to the Advisory Panel and Management Team in culling the highest priority risk reduction options based on factors such as the likelihood of providing significant benefit, the satisfaction of cost-benefit analysis, and the consideration of uncertainty as it relates to the predicted efficacy of a given risk reduction option. A report will be developed to capture the basis for prioritization and justification to recommend immediate implementation of some of the potential risk reduction measures. The report will document the fact that uncertainty in the estimates of frequencies and benefits have been accounted for. The prioritized list of risk reduction options will include identifying those that demonstrate sufficient promise for detailed analysis in the Phase B Focused Risk Assessment.

Phase B Focused Risk Assessment

The Phase B Focused Risk Assessment involves a more in-depth analysis of certain potential risk reduction measures identified in Phase A, with the objective of quantifying their benefits and costs and better understanding their secondary effects on both the overall system and the net benefits of other measures. The number and complexity of prioritized risk reduction measures emanating from Phase A will largely dictate the scope of the Phase B Assessment. The Phase B Focused Risk Assessment is generally expected to follow the basic steps undertaken in Phase A, although the analysis for Phase B will need to be more focused, with sufficient detail, precision, and data quality to allow more robust decisions on the selection, design, and implementation of cost-effective measures.

As recognized in the TRB report, the Phase B study cannot be explicitly defined until the conclusion of Phase A. This RFP **does not** include a Scope of Work covering particular Phase B activities. A detailed Scope of Work for Phase B will be developed by the AIRA Management Team and AIRA Program Manager at the conclusion of Phase A. In turn, the Contractor selected for performance of the Phase A work through this RFP will be eligible to submit a Proposal Package for the Phase B RFP.

Possible characteristics of the Phase B risk analysis methods may include the following:

- Need for use of hybrid modeling methods to develop the risk scenarios such as:
 - Event sequence diagrams for the development of categories of risk scenarios at an appropriate level of abstraction.
 - Fault trees, Bayesian belief networks, or similar logic modeling methods, as necessary to add causal detail to the events of the event sequence diagrams; and,
 - Physical models and simulation, particularly for environmental consequence analysis and system simulations.
- Need for more detailed causal modeling, particularly in areas where risk reduction measures are being considered. The level of detailed risk analysis will be influenced by data availability. Details should be added even in the absence of data so that sensitivity analysis can be performed.
- Need to consider possible human errors in critical phases of risk scenario evolutions. This analysis, at a minimum, should include identification of human failure events with corresponding human error probability.
- The consideration of rare, high-consequence events as well as more frequent, lower-consequence events needs to be examined. The methods used to study each type may differ.
- Use of advanced methods for estimation of model parameters. Such methods may encompass probabilities of events, projection of vessel traffic into the future, and metrics for the effectiveness of risk control. They may also include Bayesian inference.

- Use of formal methods for employing expert opinion
- More rigorous and comprehensive uncertainty and sensitivity analyses. The findings of the analysis need to be carefully scrutinized and the level of uncertainty explicitly stated so that decision makers will not inadvertently be left with a false sense of precision. All important sources and types of uncertainty need to be considered in generating and reporting the findings of the Phase B risk analysis.

The extent of additional consequence analysis required for the Phase B assessment will be influenced by the types of risk reduction options to be evaluated and the possible need for monetizing of benefits, such as avoidance of natural resource damage and socioeconomic costs.

During Phase B, it may be desirable to obtain more detailed estimates of the distribution of spill sizes for certain accident scenarios, changes in vessel design and size, and the size of bunker tanks may make it difficult to predict spill size entirely on the basis of historical data, in which case analytical techniques should be applied. The complexity of the problem necessitates the use of many simplified assumptions, which reduces the confidence level of the results. If these approaches are applied in Phase B analysis, their results should be benchmarked against historical spill data to the extent practical.

Phase B should include a quantitative fate and effect consequence analysis to yield an understanding of damage to natural resources and socioeconomic impacts associated with different hazards, sizes of spills, and accident locations. Additional model runs may be needed in Phase B. Where particularly sensitive habitats are endangered, estimates of fatalities to fish, invertebrates, seabirds, and mammals may be desired. For these a biological model is applied together with the fate model to determine exposure of habitats and organisms to lethal levels of spill components and to estimate mortality and ecological losses.

In Phase B, the costs and benefit should be quantified to the extent possible. The procedures for cost-benefit analysis and cost effectiveness analysis should be applied to all measures to facilitate decision-making. Cost benefit analysis should be performed to the extent practical when benefits can reasonably be monetized. Cost effectiveness analysis should be applied when it's difficult to monetize benefits, particularly when safety and health assessments come into play. When costs or benefits cannot be monetized, they should be expressed in physical units. If they cannot be expressed in physical units, a qualitative description of the costs and benefits should be provided.

Section Five

Project Deliverables and Timeline

5.01 Summary of Product Deliverables

All deliverables are to be provided in five hard copies and two electronic copies on separate CD-ROMs. The electronic files must contain both the source files and Adobe PDF versions of applicable reports. NFWF will also receive a digital copy of all raw data files, including metadata, used in connection with the Contractor's performance of the work hereunder.

Phase A deliverables:

- Aleutian Traffic Study Report
- Baseline Spill Study Report
- Risk matrix based on findings from the traffic and baseline spill studies, per Task 3
- Consequence Analysis Report, per Task 4
- Accident Scenario and Causality Report, per Task 5
- Initial qualitative estimation of the benefits and costs of risk reduction options, per Task 6
- Initial assignment of frequency and consequence categories to each accident scenario, per Task 6B
- Risk reduction evaluation report, per Task 7

5.02 Status Reports

Throughout the project, status reports are to be presented by the Contractor at intervals agreed upon by the AIRA Advisory Panel and Management Team. Status reports may include, but are not necessarily limited to, in-person attendance at meetings, participation in telephone conference calls, and/or preparation of written status summaries.

5.03 Timeline

The AIRA Program Manager has established a tentative timeline for this project. Applicants may propose modifications to this schedule as part of their proposals, however all work associated with the Contract **must be completed no later than April 30, 2010**.

PROPOSED RISK ASSESSMENT TIMELINE				
August 2009	April 2010	July 2010	April 2011	August 2011
AIRA Program Manager and Management Team issues Notice to Proceed Management Team and Contractor meet via teleconference to discuss project schedule, tasks and deliverables.	Complete Phase A Preliminary Risk Assessment	Qualitative Risk Assessment and Prioritization of Risk Reduction Measures	Complete Phase B Focused Risk Assessment	Development and Reporting of Findings and Recommendations

Section Six

Proposal Package Format and Content

6.01 Proposal Package Format and Content

Applicants must follow the Proposal Package format set out in this RFP. Proposal Packages that do not include all elements of the required format may be rejected. All costs associated with the preparation, submittal, presentation, or evaluation of any Proposal Package will be solely the responsibility of the Applicant.

Proposal Packages must contain the following three (3) sections:

1. Proposal Transmittal
2. Technical Proposal
3. Cost Proposal

Proposal Transmittal Components

1. An introduction letter that includes:
 - a) The Applicant's contact information;
 - b) A statement of goals and objectives (300 words or less);
 - c) A statement that the proposed work can be completed within the time and budget constraints listed in the Proposal Package;
 - d) A statement that the Applicant's Proposal Package shall remain open and valid for at least ninety (90) days after the RFP Deadline;
 - e) Confirmation that the Applicant will comply with all provisions in this RFP; and
 - f) The signature of an individual authorized to bind the Applicant to the provisions of the RFP.

Technical Proposal Components

1. A Title Page;
2. A Table of Contents;
2. A comprehensive narrative statement that illustrates the Applicant's understanding of the Scope of Work and Contract Timeline;
3. An example of a final report or presentation completed by the Applicant within past five years that demonstrates expertise in the following:
 - Maritime transportation and qualitative and quantitative spill risk assessment, including human factors analysis and uncertainty analysis
 - Marine traffic analysis and modeling
 - Environmental impact studies
 - Spill cleanup, and socioeconomic and cultural impact assessments
 - Human factors;

4. A comprehensive narrative statement that outlines the methodology that the Applicant will employ and illustrates how that methodology will serve to complete the Scope of Work within the Contract Timeline;
5. A comprehensive narrative statement that outlines the management plan that the Applicant intends to follow and illustrates how that management plan will serve to complete the Scope of Work within the Contract Timeline;
6. An organizational chart that identifies the individuals responsible for the completion of each component of the Scope of Work and illustrates the lines of authority;
7. A profile of each individual involved in completing the Scope of Work that includes:
 - a) Personnel Category/Specialization
 - b) Estimated number of hours to be contributed and associated costs
 - c) Resume
 - d) References;
8. Subcontractor Information (as described in Section 1.14 of this RFP);
9. Conflict of Interest Disclosure (as described in Section 1.15 of this RFP); and
10. Request for Confidentiality (as described in Section 1.13 of this RFP).

Cost Proposal Components

1. A Title Page; and
2. An itemized list of all costs associated with the completion of each phase in the Scope of Work, including the number of hours and billing rates for each individual, direct expenses and supplies.