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RETURN BIDS TO:
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Bid Receiving - PWGSC / Réception des soumissions – TPSGC
11 Laurier St. / 11, rue Laurier
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
Gatineau
Quebec
K1A0S5
Bid Fax: (819) 997-9776

Revision to a Request for Supply Arrangement - Révision à une demande pour un arrangement en matière d'approvisionnement

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

Marine Emergency Response Division/Division des Interventions en cas d'urgence maritime
Centennial Towers 7th Floor - 7W11
200 Kent Street
Ottawa
Ontario
K1A0S5

Title - Sujet EREP: Containment Booms RFSA
EREP: Containment Booms and Accessories RFSA

Solicitation No. - N° de l'invitation	**Date**
F7047-220006/B	2024-01-30
Client Reference No. - N° de référence du client	**Amendment No. - N° modif.**
F7047-220006	003
File No. - N° de dossier	**CCC No./N° CCC - FMS No./N° VME**
017erd.F7047-220006	

GETS Reference No. - N° de référence de SEAG
PW-$ERD-017-29231

Date of Original Request for Supply Arrangement 2023-12-08
Date de demande pour un arrangement en matière d'app. originale

Solicitation Closes - L'invitation prend fin

at - à 02:00 PM Eastern Standard Time EST
on - le 2024-02-09 Heure Normale du l'Est HNE

Address Enquiries to: - Adresser toutes questions à:	**Buyer Id - Id de l'acheteur**
Bates, Bruce	017erd
Telephone No. - N° de téléphone	**FAX No. - N° de FAX**
(343) 598-1269 ( )	( ) -

Delivery Required - Livraison exigée

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:

Security - Sécurité
This revision does not change the security requirements of the solicitation.
Cette révision ne change pas les besoins en matière de sécurité de l'invitation.

Instructions: See Herein

Instructions: Voir aux présentes

Acknowledgement copy required / **Accusé de réception requis**	**Yes - Oui** ☐	**No - Non** ☐

The Offeror hereby acknowledges this revision to its Offer.
Le proposant constate, par la présente, cette révision à son offre.

Signature **Date**

Name and title of person authorized to sign on behalf of offeror. (type or print)
Nom et titre de la personne autorisée à signer au nom du proposant.
(taper ou écrire en caractères d'imprimerie)

For the Minister - Pour le Ministre

Canada

SOLICITATION AMENDMENT 003

This Solicitation Amendment 003 is raised to:

1. Answer questions that were received from industry;
2. Modify Annex A – Statement of Work - Section 5 Boom and Optional Accessory Requirements;
3. Insert an updated Annex A – Statement of Work.

---

1. Answer the following question from industry:

SOW – 5.1B: *Fold points must be incorporated every 5 ft. into each Boom section to facilitate flaking for storage.*
Question 24: Are fold points incorporated every 3 feet acceptable?
Answer 24: No, 5 feet has been chosen to maximize storage space when flaking vertically.

SOW – 5.1E: *The Boom must be fitted with Type II classification retro-reflective materials compliant with International Maritime Organization (IMO) resolution A.658 (16) for buoyant apparatus, besides the exceptions specified herein.*
Question 25: Are retro reflective stickers acceptable? If so, what are the required specifications?
Answer 25: The retro reflective material must meet the requirements for classification type II International Maritime Organization (IMO) resolution A.658 (16) for buoyant apparatus, They must also meet requirement 5.2E in the SOW.

SOW – 5.1H: *The reflective materials (in requirement 5.1E) must be spaced at least every 10 feet. (i.e reflective strips with a minimum area of 150 cm^2 can be spaced closer than 10 ft center to center, but this is the maximum they can be spaced apart.*
Question 26: Is it acceptable for the stickers to be aligned with the spacing of the floaters?
Answer 26: Yes, if the spacing between the stickers doesn't exceed 10 feet center to center.

SOW – 5.1I: *The PVC or PU coated fabric must have a minimum fabric weight of 22 oz/yd^2.*
Question 27: Is a fabric weight of 900gsm acceptable?
Answer 27: When converted to oz/yd^2, the fabric weight must be at least 22 oz/yd^2.

SOW – 5.2A: *Each floatation element must be a single continuous extrusion fabricated from closed cell polyethylene foam. In scenarios where a floatation element larger than 6" is necessary, it may be fabricated from a 6" solid core float that is wrapped or fit inside a larger hollow float.*
Question 28: Is a cylindrical floatation made using rolled closed cell PE foam sheets without a center core acceptable?
Answer 28: No, requirement 5.2A only allows floats larger than 6" diameter to use a 6" solid core that is wrapped to meet the desired diameter.

SOW – 5.2D: *Cylindrical floatation elements must have beveled ends on both faces (for efficient vertical flaking for storage).*
Question 29: Is a cylindrical floatation made using rolled closed cell PE foam sheets acceptable?
Answer 29: No, it must be a single continuous extrusion.

SOW – 5.4A: *The ballast chain tension member must have an anchor point at the midpoint of each Boom section (i.e. 25ft). The anchor point must have an exposed shackle secured at this point for attaching anchor equipment.*
Question 30: Are anchor points on the end of each boom section acceptable?

Answer 30: No, the anchor point must be in the middle of the boom section as indicated in requirement 5.4A.

SOW – 5.4B: *The anchor point must be indicated by a red webbing handle directly above its location secured to the top of the Boom (i.e. 25 ft).*
Question 31: Is an anchor point on an eye-nut attached to the end connection acceptable?
Answer 31: No, they must be in the location indicated in 5.4A and designated with the red handle above.

SOW – 5.4C: *There must be black webbing handles for personnel to move and carry the Boom secured to the top of the Boom. They must be located at the midpoint of each floatation element (i.e. at 2.5 ft, 7.5 ft, 12.5 ft… 47.5 ft).*
Question 32: Are webbing handles on top of every HF weld and HF welding every 3ft acceptable?
Answer 32: If the interval between handles does not exceed 5 ft center to center, that would be acceptable.

SOW – 5.5A: *All shackles used in construction of the Boom must conform to the requirements prescribed for Type IVA, Class 2, Grade A shackles (i.e. screw-pin anchor shackles) in RR-C-271F, Chains and Attachments, Carbon and Alloy Steel.*
Question 33: Can shackles used for the lifting sling be grade 80, nut bolt type? Other shackles would be hot dip galvanized.
Answer 33: Shackles must be screw-pin type and meet the requirements for type IVA, Class 2, Grade A shackles in RR-C-271F, Chains and attachments, Carbon and Alloy Steel.

SOW – 5.5D: *All carbon steel chain and attachments must be hot-dip galvanized per ASTM A153/A153M-16a, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.*
Question 34: In our offer, all carbon/mild steel elements would be hot dip galvanized. Is this acceptable?
Answer 34: All carbon steel chain and attachments must be hot-dip galvanized per ASTM A153/A153M-16a, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

SOW – 5.5F: *All carbon steel chain used in boom construction must be grade 30 at a minimum.*
Question 35: Can the shackles used for the lifting sling be grade 80, Nut bolt type? Other shackles shall be Hot dip Galvanized (Q235).
Answer 35: There is no requirement for lifting slings in this SOW. Shackles must be screw-pin type and meet the requirements for type IVA, Class 2, Grade A shackles in RR-C-271F, Chains and attachments, Carbon and Alloy Steel.

SOW – 5.11B: *There must be two self-locking cross-pin holes. One is 4.5 inches above the design waterline (DWL) and one 4.5 inches below the DWL.*
Question 36: Is a single pin for the end connection acceptable?
Answer 36: ASTM End connectors must meet the requirements defined in ASTM F962-04 (2010), Standard Specification for Oil Spill Response Boom Connection: Z-Connector, and the requirement in section 5.11 in the SOW.

SOW – 5.12: *Shotgun Connectors*
Question 37: Are ASTM sliding Z end connectors acceptable?
Answer 37: ASTM Z connectors are not acceptable in place of Shotgun Connectors. If a supplier only wishes to provide ASTM Z connectors, they can elect to only provide boom for streams 1 to 4. ASTM End connectors must meet the requirements defined in ASTM F962-04 (2010), Standard Specification for Oil Spill Response Boom Connection: Z-Connector, and the requirement in section 5.11 in the SOW.

SOW – 5.13A: *Shotgun connectors must meet the requirements in section 5.12.*
Question 38: Are ASTM sliding Z end connectors acceptable?
Answer 38: ASTM Z connectors are not acceptable in place of Shotgun Connectors. If a supplier only wishes to provide ASTM Z connectors, they can elect to only provide boom for streams 1 to 4. ASTM End connectors must meet the requirements defined in ASTM F962-04 (2010), Standard Specification for Oil Spill Response Boom Connection: Z-Connector, and the requirement in section 5.11 in the SOW.

SOW – 5.15A: *Towlines must be a braided or twisted polymer rope, 100 ft in length.*
Question 39: Is twisted PP rope acceptable?
Answer 39: Yes, as long as it is at least 100 ft in length.

SOW – 5.15B: *The towlines must be 5/8" diameter.*
Question 40: Is 18mm diameter acceptable?
Answer 40: When converted to inches, the minimum acceptable diameter is 5/8" or 0.625 inches.

SOW – 5.15C: *The towlines must be blue in color.*
Question 41: Is the color white acceptable?
Answer 41: No, they must be blue.

SOW – 5.15E: *The towlines must be fitted with a stainless-steel snap hook secured on the spliced end.*
Question 42: Are connector shackles acceptable?
Answer 42: Yes, requirement 5.15E has been amended to allow snap hooks or shackles on the spliced end.
Change : 5.15E
Original : The towlines must be fitted with a stainless-steel snap hook secured on the spliced end.
New : The towlines must be fitted with a stainless-steel snap hook or shackle secured on the spliced end.

SOW – 5.15F: *The snap hooks must be able to be taken off the spliced end of the towline.*
Question 43: Are connector shackles acceptable?
Answer 43: See amended requirement 5.15E above.

SOW – 5.16B: *The anchor lines must be 5/8 in. in diameter.*
Question 44: Is 18mm diameter acceptable?
Answer 44: When converted to inches, the minimum acceptable diameter is 5/8" or 0.625 inches.

SOW – 5.16C: *The anchor lines must be yellow in color.*
Question 45: Is the color white acceptable?
Answer 45: No, they must be yellow.

SOW – 5.16D: *The trip lines must be ½ in. in diameter.*
Question 46: Is 18mm diameter acceptable?
Answer 46: When converted to inches, the minimum acceptable diameter is 1/2" or 0.5 inches.

SOW – 5.16E: *The trip lines must be yellow in color.*
Question 47: Is the color white acceptable?
Answer 47: No, they must be yellow.

SOW – 5.16F: *The anchor line and trip line must be braided or twisted polymer rope.*
Question 48: Is twisted PP rope acceptable?
Answer 48: Yes.

SOW – 5.16I: *The 50 ft lengths of anchor line and trip line must be fitted with stainless steel snap hooks secured on each spliced end.*
Question 49: Are connector shackles acceptable?
Answer 49: Yes, requirement 5.16I has been amended to allow snap hooks or shackles on the spliced end of the anchor line and trip line.
Change: 5.16I
Original: The 50 ft lengths of anchor line and trip line must be fitted with stainless steel snap hooks secured on each spliced end.
New: The 50 ft lengths of anchor line and trip line must be fitted with stainless steel snap hooks or shackles secured on each spliced end.

SOW – 5.16J: *The snap hooks must be able to be taken off the spliced end.*
Question 50: Are connector shackles acceptable?
Answer 50: See amended requirement 5.16I.

SOW – 5.16M: *Anchors must be 20 kg in weight.*
Question 51: Is a 25kg Danforth anchor acceptable?
Answer 51: Yes, minimum weight is 20 kg.

SOW – 5.16N: *The anchor chain must be fixed to the top of the anchor.*
Question 52: Can the anchor chain be fixed to the leg of the fluke anchor?
Answer 52: The anchor chain must be attached to the shank or top of the fluke anchor as is standard practice.

SOW – 5.16O: *Anchors must have a means to attach to trip line at the bottom of the anchor.*
Question 53: Is it acceptable for the anchor to have a means of attaching the trip line to the top of the anchor?
Answer 53: No, the trip line must be attached to the base, bottom, or tripping ring on the Danforth anchor to more easily remove the anchor when stuck in the sea bed.

SOW – 5.17G: *Each anchor light's run time must be at least 12 hours continuous when fully charged.*
Question 54: We can meet this requirement on sunny days. Is this acceptable?
Answer 54: Yes.

SOW – 5.17H: *The anchor light buoy must be fitted with a snap hook on a rope that can attach to boom anchor points.*
Question 55: Are shackles acceptable instead of a snap hook?
Answer 55: Yes, requirement 5.17H has been amended to allow snap hooks or shackles on the end of the rope.
Change: 5.17H
Original: *The anchor light buoy must be fitted with a snap hook on a rope that can attach to boom anchor points.*
New: The anchor light buoy must be fitted with a snap hook or shackle on a rope that can attach to boom anchor points.

SOW – 5.18A: *Shackles in the accessory package must be screw-pin anchor shackles, and conform to the requirements prescribed for Type IVA, Class 2, Grade A shackles (i.e., screw-pin anchor shackles) in RR-C- 271F, Chains and Attachments, Carbon and Alloy Steel.*
Question 56: Can shackles used for the lifting sling be grade 80, nut bolt type? Other shackles would be hot dip galvanized.

Answer 56: There is no requirement for lifting slings in this SOW. Shackles must be screw-pin type and meet the requirements for type IVA, Class 2, Grade A shackles in RR-C-271F, Chains and attachments, Carbon and Alloy Steel.

2. Modify Annex A – Statement of Work - Section 5 Boom and Optional Accessory Requirements:

At Subsection 5.5 Hardware & Spares;

DELETE: item 5.5G in its entirety.

5.5G	All stainless steel used in boom construction must be type 316 or 304. NOTE: The Contractor may propose suitable alternative marine-grade and corrosion-resistant materials for consideration by Canada	Analysis

INSERT: item 5.5G as below:

5.5G	All fasteners (nuts, bolts, washers etc.) must be grade 316 or 304 stainless steel. In some instances, grade 316 may be required.	Analysis

NOTE: The grade of steel will be specified in the resulting Solicitation documents.

At Subsection 5.18 - Accessory Package Hardware & Block and Tackle;

INSERT: items 5.18G & 5.18H as below:

5.18G	All stainless steel used in optional accessory package items must be grade 316.	Analysis
5.18H	All carbon steel used in optional accessory package items must be hot-dip galvanized per ASTM A153/A153M-16a, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.	Analysis

3. Insert an updated Amend Annex A – Statement of Work.

Amendment to Annex A **-** Statement of Work – Containment Booms and Accessories.

DELETE: Annex A in its entirety.
INSERT: Annex A as attached

All other terms and conditions remain unchanged.

Annex A
Statement of Work

Containment Boom and Accessories

STATEMENT OF WORK
TABLE OF CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS

ASTM	Formerly known as the American Society for Testing and Materials
CCG	Canadian Coast Guard
DD	Two-digit day
DWL	Design waterline
LED	Light-emitting diode
MM	Two-digit month
nm	Nautical mile
OEM	Original equipment manufacturer
PVC	Polyvinyl chloride
QA	Quality assurance
RF	Radio-Frequency
SOW	Statement of Work
UV	Ultraviolet
YYYY	Four-digit year

SECTION 1 INTRODUCTION

1.1. BACKGROUND

The Canadian Coast Guard (CCG) is the lead federal agency responsible for ensuring the clean-up of all ship-source and mystery-source pollution spills into waters under Canadian jurisdiction. In fulfillment of this legislated mandate, the CCG maintains a level of operational preparedness capacity to monitor, investigate, and respond, when required, to all reports of marine pollution incidents.

1.2. PURPOSE

The CCG requires the ability to procure 18 and 24 inch curtain boom and 18 and 24 inch fence boom, as well as optional accessories, as outlined in the tables below. The CCG requires that the boom be fitted with either ASTM Z end connectors or Shotgun end connectors. This Statement of Work (SOW) document defines the performance requirements, technical specifications and deliverables required for the provision of the boom and accessories.

1.3. SCOPE

The products sought have been split into the 8 streams listed below. Each stream contains a type of boom and end connector. Suppliers may be called on to provide goods from one or several of the streams they have prequalified for. The minimum length of boom ordered for any stream will be 500 feet.

Boom Streams	**Applicable requirement subsection heading #s**
1 - 18” Curtain Boom with ASTM Z end connectors	5.1-5.8, 5.11
2 - 24” Curtain Boom with ASTM Z end connectors	5.1-5.8, 5.11
3 - 18” Fence Boom with ASTM Z end connectors	5.1-5.6, 5.9-5.11
4 - 24” Fence Boom with ASTM Z end connectors	5.1-5.6, 5.9-5.11
5 - 18” Curtain Boom with Shotgun end connectors	5.1-5.8, 5.12
6 - 24” Curtain Boom with Shotgun end connectors	5.1-5.8, 5.12
7 - 18” Fence Boom with Shotgun end connectors	5.1-5.6, 5.9-5.10, 5.12
8 - 24” Fence Boom with Shotgun end connectors	5.1-5.6, 5.9-5.10, 5.12

Along with the Boom, qualified suppliers may also be asked to provide some or all of the optional accessories listed below. These optional accessories must be available to be ordered with the boom streams listed above.

Optional Accessories	**Applicable requirement subsection heading #s**
9 - Shotgun connector (only for shotgun boom suppliers)	5.12
10 - ASTM cross-pin lanyard assembly (only for ASTM boom suppliers)	5.13
11 - ASTM self-locking cross-pin (only for ASTM boom suppliers)	5.13
12 - Fabric repair kit	5.13
13 - Accessory package	5.14
14 - Towline	5.15

15 - Anchor kit	5.16
16 - Trip line float	5.16
17 - Anchor light buoy	5.17
18 - Anchor light	5.17
19 - Anchor light batteries	5.17

1.4. DOCUMENT CONVENTION

The following conventions apply to this SOW:

a. Dimensions stated as nominal are treated as approximate dimensions. Nominal dimensions reflect a standard whereby materials or products are generally identified for commercial sale, but differ from the actual dimensions.

b. Both the metric system and the imperial system of measurements may be indicated in this SOW. The system indicated must be used for fabrication.

1.5. DEFINITIONS

The following definitions apply to this SOW:

Terminology	Definition
Design Waterline (DWL)	The line at which the water will rest when the boom is deployed into a body of water.

SECTION 2 PROJECT MANAGEMENT

2.1 PROJECT SCHEDULE

The Contractor must provide a Project Schedule in accordance with Document Deliverable 1 (**DD-1 per Section 6),** for review and acceptance by Canada.

2.2 PROJECT REVIEW AND CONTROL

2.2.1. MEETING STRUCTURE AND RECORDING

Unless otherwise specified, all meetings must be held via teleconference/videoconference (such as MS Teams). The Contractor must provide Canada with a Agenda for each meeting at least 3 business days before it is set to occur and a comprehensive Record of Decisions no later than 3 business days after each meeting. At any time prior to the meeting, Canada may request that items be added to the Meeting Agenda. All Meeting Agendas and Records of Decisions must be reviewed and accepted by Canada.

2.2.2. CONTRACT KICK-OFF MEETING

The Contractor must convene and co-chair a Contract Kick-off Meeting no later than 14 calendar days after Contract Award. At a minimum, the following documents will be reviewed:

a. Contract;
b. Project Schedule (**as per DD-1**); and
c. First draft of the Detailed Design Package (**as per DD-2**).

To facilitate the review of the documentation and foster discussion, the Contractor must provide one soft copy of the documents identified above (only b & c) as well as the Meeting Agenda at least three (3) business days prior to the Kick-Off Meeting. No later than five (5) business days after the Contract Kick-Off meeting, the Contractor must distribute a record of decisions documenting all relevant decisions and actions.

2.2.3. UNSCHEDULED MEETINGS

The Contractor must provide representation at meetings (teleconference or in person) should there be a need for additional meetings.

2.2.4. PROBLEM REPORTING

The Contractor must notify Canada immediately by telephone upon discovering or identifying an issue that may impact the Work. The Contractor must document the issue in writing, within two (2) calendar days of identification, and provide to Canada via email. Canada will advise whether an unscheduled meeting or any other action is required.

2.2.5 DELIVERY INSTRUCTIONS

The Contractor must deliver the goods by appointment only. The Contractor, or its carrier, must arrange delivery appointments at least two (2) business days in advance by contacting the designated contact person. The consignee may refuse shipments when prior arrangements have not been made. Deliveries will not be accepted on weekends or statutory holidays.

SECTION 3 PRODUCT VERIFICATION

3.1. DESIGN REVIEW

The design review stage begins with the Contract Kick-off Meeting where the first draft of the Detailed Design Package (**DD-2**) is reviewed. The Detailed Design Package is the Contractor's drawing and technical data package that demonstrates that the Boom and Accessories have been designed in accordance with the requirements defined in Section 5 of the SOW.

After the Contract Kick-Off Meeting, the Contractor must update the Detailed Design Package as applicable based on the Contract Kick-Off record of decisions. The updated Detailed Design Package will be reviewed at the Critical Design Review Meeting.

3.1.1. CRITICAL DESIGN REVIEW MEETING

In preparation for the Critical Design Review Meeting, the Contractor must provide the second submission of the Detailed Design Package (**DD-2**) for review and comment by Canada. The second submission is due no later than 10 business days after the Contract Kick-off Meeting. The Contractor must convene and co-chair a Critical Design Review Meeting no later than 10 business days after providing the second submission of the Detailed Design Package.

If subsequent review meetings are required, they must be held by teleconference/videoconference no later than 5 business days after submitting the most recent revision of the document to Canada.

3.2. PRODUCT VERIFICATION

Canada reserves the right to attend any product verification activities if deemed necessary. The Contractor must notify Canada no less than three (3) weeks prior to conducting any product verification in Canada, and no less than three (3) months prior to conducting any product verification outside of Canada.

3.2.1. PRODUCT VERIFICATION PLAN

The Product Verification Plan **(DD-3)** defines how the design specified by **DD-2** will be assessed for compliance with the requirements outlined in Section 5 of the SOW. The Contractor must not proceed with any verification activities until the Product Verification Plan has been approved by Canada. The results of all product verification activities must be captured in the Product Verification Report (**DD-4)** and submitted to Canada for review and approval.

Prior to the initiation of mass production, the Contractor must:

a. Obtain Canada's formal approval of the Product Verification Plan (**DD-3**);
b. Perform all required tests, inspections, and analysis identified in the Product Verification Plan (**DD-3**) on the boom and accessories (per the delivery schedule), demonstrating to Canada that they meet all of the technical requirements as defined in Section 5 of the SOW;
c. Use the results to formulate the Product Verification Report as per **DD-4**; and
d. Obtain Canada`s formal approval of the Product Verification Report and thus the Boom and Accessories (per the delivery schedule).

3.3. QUALITY ASSURANCE

Once the Boom and Accessories have undergone product verification and been formally approved by Canada, the Contractor may begin mass production. During manufacturing, the Contractor must inspect the Boom and Accessories to ensure they have been manufactured in accordance with the design approved during Product Verification. The results of these inspections and records of any defects or manufacturing issues must be captured in the Quality Assurance Report **(DD-5)** and submitted to Canada for review and approval.

3.3.1. QUALITY ASSURANCE REPORT

Prior to shipping Boom and Accessories, the Contractor must:

a. Inspect the Boom and Accessories (per the delivery schedule);
b. Submit a Quality Assurance Report (**DD-5)**;
c. Submit Packing List(s) (**DD-6);** and
d. Obtain Canada`s formal approval of the Quality Assurance Report and Packing List(s).

SECTION 4 REFERENCE DOCUMENTATION

4.1. ORDER OF PRECEDENCE

In the event of a discrepancy between the requirements in Section 5 and the standards and specifications referenced herein, the content of Section 5 must take precedence, however, nothing in these requirements supersedes any applicable laws and regulations.

4.2. APPLICABLE STANDARDS AND REGULATIONS

The Boom and Accessories must conform to all applicable laws, regulations, and industrial standards governing manufacture, safety, noise levels, and pollution in effect in Canada at the time of manufacture. International equivalent laws, regulations, and industrial standards will be accepted only if certified for equivalency by a Professional Engineer.

The following standards and specifications apply to the products sought through this supply arrangement:

i. ASTM A153/A153M-16a, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ii. ASTM F1523 Selection of Booms in Accordance with Water Body Classifications.
iii. ASTM F962-04 (2010), Standard Specification for Oil Spill Response Boom Connection: Z-Connector.
iv. ASTM F1093-99 (2012), Standard Test Methods for Tensile Strength Characteristics of Oil Spill Response Boom.
v. ASTM F1166-07 Human Engineering Design for Marine Systems, Equipment, and Facilities.
vi. ASTM F2682-07(2018) Standard Guide for Determining the Buoyancy to Weight Ratio of Oil Spill Containment Boom
vii. IMO Resolution A.658: Use and Fitting of Retro-Reflective Materials on Life-Saving Appliances
viii. RR-C-271F, Chains and Attachments, Carbon and Alloy Steel.

4.3. SUPERSEDENCE

Unless otherwise specified by Canada, any amendment issued to the documents specified in 4.2 must reflect the version in effect on the date of Contract award.

SECTION 5 BOOM AND OPTIONAL ACCESSORY REQUIREMENTS

GENERAL BOOM REQUIREMENTS

The Requirement Verification Method column lists what needs to be provided at the design review stage, Product Verification stage and/or Quality Assurance stage to demonstrate that the equipment meets that specific requirement. These are defined in the requirement verification method table below. When more than one requirement verification method is listed, **BOTH** methods must be used to prove compliance.

REQUIREMENT VERIFICATION METHOD TABLE

Requirement Verification Method	Definition
Packing List	Detailed description of the shipment's contents (items and quantities; as per DD-6).
Inspection	The visual examination of a realized end product. Inspection is generally used to verify physical design features or specific manufacturer identification. The inspection must confirm that the design satisfies the requirement (product specification and drawing review) and the product matches the design spec (physical examination). For example, if there is a requirement that the boom be segmented into 50ft sections, the design review confirms the design length meets the requirement and the visual examination of the product confirms it was manufactured in accordance with the design dimension.
Test	The use of a realized end product to obtain detailed data to verify or validate performance or to provide sufficient information to verify or validate performance through further analysis.
Analysis	Use of mathematical modeling and analytical techniques to predict the compliance of a design to its requirements based on calculated data or data derived from lower system structure end product validations. This could also include a review of OEM product specifications, certifications, and engineering affidavits for comparison to the requirements. Requirements that are met through the use of analysis may still also be verified during the Product Verification and/or Quality Assurance stage.

The requirements in subsections 5.1-5.6 apply to all Boom types with both Shotgun and ASTM end connectors.

5.1 Physical Characteristics

Req. #	Requirement	Requirement Verification Method
5.1A	The Boom must be segmented into 50-ft. sections for ease of handling.	Inspection
5.1B	Fold points must be incorporated every 5 ft. into each Boom section to facilitate flaking for storage.	Inspection
5.1C	All fabric used in Boom construction must be PVC or polyurethane coated fabric.	Analysis
5.1D	The Boom fabric must be high visibility.	Inspection
5.1E	The Boom must be fitted with Type II classification retro-reflective materials compliant with International Maritime Organization (IMO)	Inspection

	resolution A.658 (16) for buoyant apparatus, besides the exceptions specified herein.	
5.1F	All Boom fabric seams must be RF welded. *Other methods of welding Boom fabric are acceptable as long as it can be proven that the connection method is as strong or stronger than the parent fabric.	Inspection and *Test (if applicable)
5.1G	The Boom must be provided in nominal overall heights of 18 in and 24 in.	Inspection
5.1H	The reflective materials (in requirement 5.1E) must be spaced at least every 10 feet. (i.e reflective strips with a minimum area of 150 cm^2 can be spaced closer than 10 ft center to center, but this is the maximum they can be spaced apart.	Inspection
5.1I	The PVC or PU coated fabric must have a minimum fabric weight of 22 oz/yd^2.	Analysis

5.2 Floatation Elements

Req. #	Requirement	Requirement Verification Method
5.2A	Each floatation element must be a single continuous extrusion fabricated from closed cell polyethylene foam. In scenarios where a floatation element larger than 6” is necessary, it may be fabricated from a 6” solid core float that is wrapped or fit inside a larger hollow float.	Analysis
5.2B	Each Boom section must employ some means to preserve the original orientation of the floatation elements along its longitudinal axis (e.g. webbing straps or individual fabric welds).	Inspection
5.2C	Each floatation element must be isolated from the surrounding environment by the Boom fabric to ensure continuous protection against water, hydrocarbons, and ultraviolet (UV) light exposure.	Inspection
5.2D	Cylindrical floatation elements must have beveled ends on both faces (for efficient vertical flaking for storage).	Inspection
5.2E	There must not be any stitching of handles or retro-reflective materials through floatation element pockets (described as per 5.2C). Other means of attaching these items to the Boom must be used.	Inspection

5.3 Tension Members

Req. #	Requirement	Requirement Verification Method
5.3A	Each Boom section must use a continuous piece of new, uniform, and unaltered webbing for the top tension member. A tension member constructed of individual pieces, either of the same width or different width, is prohibited.	Inspection
5.3B	Each Boom section must use a continuous piece of new, and uniform galvanized chain as the lower ballast chain tension member.	Inspection
5.3C	The ballast chain tension member pocket must be double layered (at a minimum) to protect against abrasion. Both the inner and outer layers of the ballast chain tension member pocket fabric must be the same material as the body of the Boom.	Inspection
5.3D	The ballast chain tension member pocket must have drain holes every 5 feet.	Inspection

5.4 Anchor Points & Webbing Handles

Req. #	Requirement	Requirement Verification Method
5.4A	The ballast chain tension member must have an anchor point at the midpoint of each Boom section (i.e. 25ft). The anchor point must have an exposed shackle secured at this point for attaching anchor equipment.	Inspection
5.4B	The anchor point must be indicated by a red webbing handle directly above its location secured to the top of the Boom (i.e. 25 ft).	Inspection
5.4C	There must be black webbing handles for personnel to move and carry the Boom secured to the top of the Boom. They must be located at the midpoint of each floatation element (i.e. at 2.5 ft, 7.5 ft, 12.5 ft… 47.5 ft).	Inspection
5.4D	Webbing handles must meet the requirements in section 16 of ASTM F1166-07 Human Engineering Design for Marine Systems, Equipment, and Facilities for one-hand bar handles that are to be used with a “gloved hand”.	Inspection

5.5 Hardware & Spares

Req. #	Requirement	Requirement Verification Method
5.5A	All shackles used in construction of the Boom must conform to the requirements prescribed for Type IVA, Class 2, Grade A shackles (i.e. screw-pin anchor shackles) in RR-C-271F, Chains and Attachments, Carbon and Alloy Steel.	Analysis
5.5B	All bolted connections must be fitted either with a nylon insert lock nut or lock washer to resist loosening due to shock and vibrational loading.	Inspection
5.5C	All screw-pin anchor shackles in permanent installations (e.g. shackles attaching tension members to end connecters) must be moused with Type 316 stainless steel wire to prevent the pin from loosening while under load.	Inspection
5.5D	All carbon steel chain and attachments must be hot-dip galvanized per ASTM A153/A153M-16a, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.	Analysis
5.5E	Welding must be performed by qualified welders following approved welding specifications, procedures and techniques of the National or International Standard{s) defined by the Contractor.	Analysis
5.5F	All carbon steel chain used in boom construction must be grade 30 at a minimum.	Analysis
5.5G	All fasteners (nuts, bolts, washers etc.) must be grade 316 or 304 stainless steel. In some instances, grade 316 may be required.	Analysis

5.6 Identification

Req. #	Requirement	Requirement Verification Method
5.6A	Each 50 foot Boom section must have a permanent, clearly visible, unique identifier positioned above the waterline. The purpose is for individual Boom sections to be easily identified when multiple sections are deployed, and for inventory management. The manufacturer may use their unique identifiers or the following format:	Inspection

	i. Use four uppercase letters that best represent the name of the manufacturer as the first element of the product identifier. ii. Use eight numeric digits representing the date of manufacture that correspond to the following format for the second element of the product identifier: DDMMYYYY (where DD represents the two-digit day, MM represents the two-digit month, and YYYY represents the four-digit year). iii. Use the full, alphanumeric serial number assigned by the manufacturer for the last element of the product identifier. Example: JDEE0311202383214 JDEE= John Deere 03112023 = Manufacturing date of November 3rd 2023 83214 = Manufacturer serial number	

CURTAIN BOOM 18" & 24"

The requirements in subsections 5.7-5.8 apply to all Curtain Boom streams. This includes both 18" and 24" nominal heights with either ASTM Z end connectors or Shotgun end connectors.

5.7 Performance

Req. #	Requirement	Requirement Verification Method
5.7A	The Curtain Boom must meet all the minimum values (unless otherwise specified herein) listed in table 1 of ASTM F1523 Selection of Booms in Accordance with Water Body Classifications for Protected Water Boom with 2 Tension Members.	Test
5.7B	The total tensile strength of each Curtain Boom section must be at least 400 lbs/in multiplied by the boom draft, when tested in accordance with ASTM F1093-99 (2012), Standard Test Methods for Tensile Strength Characteristics of Oil Spill Response Boom.	Test
5.7C	The gross buoyancy to weight ratio of each Curtain Boom section (including 1 shotgun connector or two ASTM Z end connectors where applicable) must be a minimum of 4-to-1, when tested in accordance with ASTM F2682-07(2018) Standard Guide for Determining the Buoyancy to Weight Ratio of Oil Spill Containment Boom.	Analysis & Test

5.8 Physical Characteristics

Req. #	Requirement	Requirement Verification Method
5.8A	The Curtain Boom must have a draft between 60% to 70% of overall boom height.	Test
5.8B	There must be a single cylindrical floatation element between each Boom fold point.	Inspection

FENCE BOOM 18" AND 24"

The requirements in subsections 5.9-5.10 apply to all Fence Boom streams. This includes both 18" and 24" nominal heights with either ASTM Z end connectors or Shotgun end connectors.

5.9 Performance

Req. #	Requirement	Requirement Verification Method
5.9A	The Fence Boom must meet all the minimum values (unless otherwise specified herein) listed in table 1 of ASTM F1523 Selection of Booms in Accordance with Water Body Classifications for Calm Water Boom with 2 Tension Members.	Test
5.9B	The total tensile strength of each Fence Boom section must be at least 320 lb/in multiplied by the boom draft, when tested in accordance with ASTM F1093-99 (2012), Standard Test Methods for Tensile Strength Characteristics of Oil Spill Response Boom.	Test
5.9C	The gross buoyancy to weight ratio of each Fence Boom section (including 1 shotgun connector or two ASTM Z end connectors where applicable) must be a minimum of 3-to-1 when tested in accordance with ASTM F2682-07(2018) Standard Guide for Determining the Buoyancy to Weight Ratio of Oil Spill Containment Boom.	Analysis & Test

5.10 Physical Characteristics

Req. #	Requirement	Requirement Verification Method
5.10A	The Fence Boom must have a draft between 60% to 80% of overall boom height.	Test
5.10B	The Fence Boom must have internal vertical rigid stiffeners distributed along its length to help maintain orientation in the water (at least 9 per 50 ft section).	Inspection
5.10C	There must be a single rectangular floatation element between each Boom fold point.	Inspection

ASTM Z End Connectors

The requirements in subsection 5.11 ONLY apply to the boom streams that are equipped with ASTM Z end connectors.

5.11 ASTM Z End Connectors

Req. #	Requirement	Requirement Verification Method
5.11A	The Boom must meet the requirements and incorporate the end connector and self-locking cross-pin construction defined in ASTM F962-04 (2010), Standard Specification for Oil Spill Response Boom Connection: Z-Connector, besides the exceptions specified herein.	Inspection & Test
5.11B	There must be two self-locking cross-pin holes. One is 4.5 inches above the design waterline (DWL) and one 4.5 inches below the DWL.	Inspection
5.11C	The self-locking cross-pin lanyard must be affixed to the end connector at the DWL.	Inspection
5.11D	The self-locking cross-pin hole diameter must be 13/32 inches.	Inspection

Shotgun end connectors

The requirements in subsection 5.12 ONLY apply to the boom streams that are equipped with Shotgun end connectors.

5.12 Shotgun Connectors

Req. #	Requirement	Requirement Verification Method
5.12A	The Boom must be provided with shotgun connectors that connect each 50 ft section together.	Inspection
5.12B	The tubular portion of the shotgun boom connectors must have a minimum inner diameter of 1 3/8".	Inspection
5.12C	The gap at each end of the shotgun connector (used to allow the connector to slide down the boom when being attached) must not exceed 3/8”.	Inspection
5.12D	The shotgun boom connectors must be fitted with foam floatation that keeps the connector afloat in fresh water.	Inspection
5.12E	The shotgun boom connectors must be fitted with a handle at the top of the connector to ease lifting and moving of the connectors.	Inspection
5.12F	Any corners of shotgun boom connectors must be flared out or rounded to help with attaching boom sections and minimizing sharp edges.	Inspection
5.12G	The shotgun boom connectors must be designed to be taken completely off the boom sections and reattached.	Inspection
5.12H	For every 500 ft of Boom provided, 11 shotgun connectors (one between each 50 ft boom section and 1 on each end) and two spares (i.e. 13 total) must come with the Boom.	Packing List
5.12I	For each 50 ft Boom section there must be a screw-pin anchor shackle or snap hook at each end of both the top and bottom tension members to attach to adjacent Boom sections or accessory equipment.	Inspection

Optional Boom and Accessory Package Requirements

The requirements in subsections 5.13-5.18 apply to the optional goods that may be purchased with boom.

5.13 Boom Requirements

Req. #	Requirement	Requirement Verification Method
5.13A	Shotgun connectors must meet the requirements in section 5.12.	Inspection
5.13B	Fabric repair kits must be able to temporarily patch holes up to 1 in. in diameter in the field on the boom fabric and come complete with instructions.	Analysis
5.13C	Self-locking cross-pin lanyards must meet the requirements defined in ASTM F962-04 (2010), Standard Specification for Oil Spill Response Boom Connection: Z-Connector.	Inspection
5.13D	Self-locking cross-pins must meet the requirements defined in ASTM F962-04 (2010), Standard Specification for Oil Spill Response Boom Connection: Z-Connector.	Inspection

5.14 Accessory Package

5.14A	The accessory package must contain the following items listed below: - 2 towlines - 6 shoreline anchor stakes - 2 anchor kits - 2 trip line floats - 4 anchor light buoys - 2 block and tackle	Packing List

	- 1 hand pump for trip line floats - 2 spare anchor light batteries - 1 spare anchor light	
5.14B	All accessory package goods must meet the requirements listed herein.	Inspection

5.15 Towlines

Req. #	Requirement	Requirement Verification Method
5.15A	Towlines must be a braided or twisted polymer rope, 100 ft in length.	Inspection
5.15B	The towlines must be 5/8” diameter.	Inspection
5.15C	The towlines must be blue in color.	Inspection
5.15D	The towlines must have an eye splice on one end that encapsulates a galvanized or stainless-steel thimble.	Inspection
5.15E	The towlines must be fitted with a stainless-steel snap hook or shackle secured on the spliced end.	Inspection
5.15F	The snap hooks must be able to be taken off the spliced end of the towline.	Inspection
5.15G	The towline bitter end must be heat sealed.	Inspection

5.16 Anchor Equipment

Req. #	Requirement	Requirement Verification Method
5.16A	Anchor kits must contain the following equipment: -300 ft of anchor line rope -150 ft of trip line rope -At least 10 ft of anchor chain -1 anchor	Packing List
5.16B	The anchor lines must be 5/8 in. in diameter.	Inspection
5.16C	The anchor lines must be yellow in color.	Inspection
5.16D	The trip lines must be ½ in. in diameter.	Inspection
5.16E	The trip lines must be yellow in color.	Inspection
5.16F	The anchor line and trip line must be braided or twisted polymer rope.	Inspection
5.16G	The anchor line and trip line must be split in 50 ft lengths (e.g. anchor line would be 6, 50 ft lengths of rope).	Inspection
5.16H	The 50 ft lengths of anchor line and trip line must have an eye splice on each end that encapsulates a galvanized or stainless-steel thimble.	Inspection
5.16I	The 50 ft lengths of anchor line and trip line must be fitted with stainless steel snap hooks or shackles secured on each spliced end.	Inspection
5.16J	The snap hooks must be able to be taken off the spliced end.	Inspection
5.16K	The anchor chain must be a continuous link of forged chain at least 10 ft in length.	Inspection
5.16L	Anchors must be Danforth/fluke type anchors.	Inspection
5.16M	Anchors must be 20 kg in weight.	Inspection
5.16N	The anchor chain must be fixed to the top of the anchor.	Inspection
5.16O	Anchors must have a means to attach to trip line at the bottom of the anchor.	Inspection
5.16P	Trip line floats must be inflatable and deflatable for storage.	Inspection
5.16Q	Trip line floats must be high visibility in colour.	Inspection
5.16R	Trip line floats must be a minimum of 6 in. in diameter.	Inspection

5.16S	Trip line floats must have an attachment point that the snap hook on the trip line can attach to.	Inspection
5.16T	Shoreline anchor stakes must be minimum of 4 ft. in length.	Inspection
5.16U	Shoreline anchor stakes must be constructed from galvanized steel.	Analysis
5.16V	Shoreline anchor stakes must have an attachment point at the top of the stake that can accept hook from block and tackle.	Inspection
5.16W	Shoreline anchor stakes must be an angle iron construction with a thickness of at least 3/16 in.	Inspection
5.16X	The angle iron must be 2 X 2 in at the top tapering down to 1 X 1 in. at the bottom.	Inspection
5.16Y	The hand pump must be able to inflate the trip line floats manually.	Analysis

5.17 Anchor Light Buoys

Req. #	Requirement	Requirement Verification Method
5.17A	The anchor light buoys must be self-buoyant.	Test
5.17B	The anchor light must be solar powered.	Analysis
5.17C	The anchor light battery must be a lithium-ion type battery.	Analysis
5.17D	Each anchor light must use a 360 degree, flashing, light-emitting diode (LED).	Analysis
5.17E	Each anchor light's visibility range must be at least 1 nautical mile (nm).	Analysis
5.17F	The anchor light must have a minimum waterproof rating of IP47.	Analysis
5.17G	Each anchor light's run time must be at least 12 hours continuous when fully charged.	Analysis
5.17H	The anchor light buoy must be fitted with a snap hook or shackle on a rope that can attach to boom anchor points.	Inspection
5.17I	The anchor light must be raised a minimum of 1 ft in the air from the DWL.	Inspection & Test

5.18 Accessory Package Hardware & Block and Tackle

Req. #	Requirement	Requirement Verification Method
5.18A	Shackles in the accessory package must be screw-pin anchor shackles, and conform to the requirements prescribed for Type IVA,	Analysis

	Class 2, Grade A shackles (i.e., screw-pin anchor shackles) in RR-C-271F, Chains and Attachments, Carbon and Alloy Steel.	
5.18B	Block and tackle must include 2 metal housings for the pulley wheels.	Inspection
5.18C	The metal housings must be fitted with a hook or snap hook to attach to shoreline anchor stakes and other equipment.	Inspection
5.18D	The block and tackle system must have a minimum breaking strength of 4000 lbs.	Analysis
5.18E	The block and tackle must include at least 100 ft of rope.	Inspection
5.18F	The block and tackle rope must have eye splices on each end.	Inspection
5.18G	All stainless steel used in optional accessory package items must be grade 316.	Analysis
5.18H	All carbon steel used in optional accessory package items must be hot-dip galvanized per ASTM A153/A153M-16a, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.	Analysis

SECTION 6 DOCUMENT DELIVERABLES

The following document deliverables are required:

Item #	Deliverable	Description	Notes
DD-1	Project Schedule	At a minimum, the Project Schedule must identify: a. Manufacturing completion dates for each individual shipment; b. Shipment and delivery dates; c. Document deliverable submission dates; d. Testing dates; and e. Meetings.	Due 3 business days prior to the contract kick-off meeting. Updated schedule required on a bi-weekly basis when there are any changes to the schedule. Electronic copy English
*DD-2	Detailed Design Package	The Detailed Design Package shows the Contractor's technical solution for the Boom and Accessories defined by the SOW. The Detailed Design Package must include the complete detailed design drawings for the Boom and Accessories. The drawings must: a. Demonstrate compliance with all SOW requirements listing inspection as the requirement verification method (where requirements cannot be demonstrated visually, drawing notes must be used); b. Show the location of, assembly of, and interconnection between all components; c. Include a comprehensive Bill of Materials; d. Include the design of welded connections. At a minimum, drawings of the following must be provided: i. Boom (showing end connector detail) ii. Anchor light Buoys (if applicable) iii. Anchor Kits (if applicable) iv. Towlines (if applicable) v. Shotgun Connectors (if applicable) Each drawing must include a drawing title, drawing number, revision number, drawing scale, units of measure, dimensioned features, legend (as applicable), assembly notes, and the initials of the author of the drawing. The Detailed Design Package must also include calculations (including inputs, assumptions and outputs) for the following: i. Buoyancy to Weight Ratio calculation for 50ft boom section (including either 1 shotgun connector or 2 ASTM Z end connectors, depending on the boom stream that is being provided). For all SOW requirements listing analysis as the requirement verification method, the Detailed Design Package must include OEM product specifications, certifications, engineering affidavits, or other means to demonstrate compliance where requirements cannot be demonstrated using drawings.	First draft due 3 business days prior to the contract kick-off meeting. Second draft due no later than 10 business days following the Contract Kick-off Meeting. Must be updated if there are any design changes during manufacturing. Electronic copy English and French
*DD-3	Product Verification Plan	The purpose of the Product Verification Plan is to provide complete details of how the Contractor will demonstrate that each SOW requirement is met by the goods manufactured in accordance with the design approved per DD-2 (Detailed Design Package). The Product Verification Plan must identify all testing, inspections, analysis and certifications that will take place during Product Verification (please see definitions in the Requirement Verification Method Table). The final accepted version of the Product Verification Plan must be used as the template for the Product Verification Report, as per DD-4. The Product Verification Plan must include:	Due no later than 15 business days after the Critical Design Review Meeting. Electronic copy English

		Inspection Items All requirements that list inspection in the requirement verification method column of the SOW must be physically inspected during Product Verification to demonstrate compliance with the requirement. Pictures, videos, or live streaming will be required to demonstrate compliance with these requirements. ***Analysis Items*** All requirements that list analysis in the requirement verification method column of the SOW must use OEM specifications, certifications, material data sheets, mathematical modeling or analytical techniques to demonstrate compliance with the requirement. Physical inspections or short demonstrations must be used to supplement the data when necessary. ***Test Items*** At a minimum, all requirements that list test in the requirement verification method column of the SOW must have certified test results that demonstrate compliance with the requirement. At a minimum the following tests must be conducted for each boom stream: • Total Tensile Strength test as per ASTM F1093-99 (2012). • Fabric seam strength test (if applicable) • Design Water Line (DWL) or draft test. This can be completed with the 10 ft sample to be made for the test above. • Fabric tensile strength and tear strength of the boom fabric as per ASTM F715 and D751. • Boom to Boom connection strength as described in section 4.1 of ASTM F962. • Anchor light buoy buoyancy and DWL test. • Buoyancy to weight ratio test as per ASTM F 2682-07 *Test Procedures* For each Test Item, the following must be described: • Test methods; • Safety precautions; • Measurement parameters; • Pass/fail criteria; and • Procedure in case of test interruption. *Mitigation and Re-testing Strategies* Each test item must include mitigation and re-testing strategies that will be used should any non-conformance issues arise during testing. The Contractor must provide a process for Canada's review and approval detailing all actions to be taken in order to address any non-conformance issues which may arise.	
*DD-4	Product Verification Report	The Product Verification Report documents the results of the verification activities that were conducted in accordance with the Product Verification Plan (DD-3) and prove that the final product meets the requirements in the SOW. The Product Verification Report must be certified by the Contractor as an accurate record of the product verification results. The template accepted as per DD-3 must be used. All relevant Certification and Material Data Sheets, or copies thereof, must be appended to the Product Verification Report.	Due no later than 3 business days following the completion of product verification activities. Electronic copies English
**DD-5	Quality Assurance (QA) Report	The Contractor must provide a Quality Assurance Report for each shipment (for each delivery location) following inspection. The Quality Assurance Report must be certified by the Contractor as an accurate record of the inspection results. At a minimum, the Quality Assurance Report must contain the following: - Assurance that the Contractor has checked the goods for any damage and reported any repair or replacement procedures during manufacturing; - Assurance that all goods in each shipment (for each delivery location) are accounted for; - Assurance that the Contractor has wrapped all of the goods in plastic to ensure they are kept clean during shipment; and - Assurance that all loose items are secure for shipment.	Due no later than 3 business days following the completion of Quality Assurance activities. Electronic copies English
**DD-6	Packing List	The Contractor must provide a Packing List with each shipment (for each delivery location), as per the template provided in Appendix B. This list must be provided prior to shipment along with a picture of the packaged goods. Size, weight, # of pallets and other important shipping information should be included. The packing list will be used by Canada when receiving the goods to ensure all items on the list are present and no damage has occurred during shipping.	Due no later than 3 business days prior to shipping each order. Electronic copies English

* Required for each stream being purchased under the resulting Supply Arrangement. For example, if a procurement includes two streams of boom, each of these deliverables must be provided for both streams.

**Required for each shipment.

i. DOCUMENTATION FORMATTING

Canada requests that all digital (acceptable doc formats are: PDF's and Microsoft Office documents) and hard copies of documentation (with the exception of drawings, which must be available use 11 x 17 inch paper) use 8.5 x 11 inch paper in sans serif typeface. For example, the use of Arial size 10 is acceptable. Hard copies must be printed using at least 600 DPI, double-sided, and must be collated and bound, unless otherwise specified by Canada.

APPENDIX B – PACKING LIST

Boom - Packing list					
Manufacturer:					
Contract #:					
Delivery location:					

Boom Stream	QUANTITY (# of 50 ft sections)	UNIQUE PRODUCT IDENTIFIERS (for each 50ft section of boom)	Pallet #s	VISUAL INSPECTION *To be completed by receiver	Non-conformity *To be completed by receiver

Accessories - Packing list					
Manufacturer:					
Contract #:					
Delivery location:					

ITEM DESCRIPTION	QUANTITY	MANUFACTURER MODEL /PART NUMBER	PALLET #	VISUAL INSPECTION *To be completed by receiver	Non-conformity *To be completed by receiver
Anchor light buoy					
Block and tackle		N/A			
Shoreline anchor stakes		N/A			
Anchor		N/A			
Shotgun connectors					
Fabric repair kit		N/A			
ASTM self-locking cross-pin		N/A			
ASTM cross-pin lanyard assembly		N/A			
Towline		N/A			
Trip line floats		N/A			
Anchor light batteries		N/A			
Anchor light					
Anchor line rope		N/A			
Trip line rope		N/A			
Anchor chain		N/A			
Hand pump		N/A			

*Electronic copy to be provided following contract award.