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**SOLICITATION AMENDMENT  
MODIFICATION DE L'INVITATION**

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**

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Marine Emergency Response Division/Division des

Interventions en cas d'urgence maritime

Centennial Towers 7th Floor - 7W11

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Ottawa

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<b>Title - Sujet</b> EREP: Weir Skimmers	
<b>Solicitation No. - N° de l'invitation</b> F7047-220015/B	<b>Amendment No. - N° modif.</b> 002
<b>Client Reference No. - N° de référence du client</b> F7047-220015	<b>Date</b> 2024-06-28
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$ERD-014-29358	
<b>File No. - N° de dossier</b> 008erd.F7047-220015	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> Eastern Daylight Saving Time EDT <b>on - le 2024-07-25</b> Heure Avancée de l'Est HAE	
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## SOLICITATION AMENDMENT 002

This Solicitation Amendment is raised to:

1. Answer questions from industry and amend Annex "A" Weir Skimmers Statement Of Work
  2. Insert Annex "A" the Statement Of Work
- 

### 1. QUESTIONS AND ANSWERS:

#### Question 1

*B2.9. The Weir Skimmer head must incorporate a pump that:*

- a. Has inlet steam and hot water injection capabilities;*
- b. Can pump oil and bitumen of at least 200,000 cSt at a 45 m [147.64 ft] distance, at a height of 5.5 m [18 ft] and at a minimum rate of 70% of the pump's nameplate;*
- c. Does not create an oil-water emulsions during pumping;*
- d. Includes debris cutting knives; and*
- e. Includes annular water injection capabilities at the discharge side of the pump.*

Data showing the capacity when skimming/pumping oil at 200.000cSt is not available but we can complete a test in thin oil showing the required capacity of 45/90 m3h and provide a mathematical calculation showing the same capacity of 70% with 200.000cSt. Previous testing from initiatives such as JVOPS provides the basis also for these mathematical models and has been accepted in other contracts for CCG provided goods. Will CCG accept this mathematical model?

#### Response to Question 1

Yes. Canada will accept mathematical analysis (as per the requirement verification methods indicated in the SOW for requirement B2.9), as long as it clearly demonstrates that the system can pump oil and bitumen of at least 200,000 cSt at a 45 m [147.64 ft] distance, at a height of 5.5 m [18 ft] and at a minimum rate of 70% of the pump's nameplate.

#### Question 2

*B2.15. All boom connectors incorporated into the Weir Skimmer Package must be capable of interfacing with the containment boom connector defined in ASTM F962-04 (2010), Standard Specification for Oil Spill Response Boom Connection: Z-Connector. The following exceptions apply to this Standard:*

- a. Toggle pin holes must be located 4.5 inches above and below the design waterline (DWL); and*
- b. The toggle pin hole diameter must be 13/32 inches (+0.006"/-0.0375").*

The requirement of coupling the skimmer to a boom section does not make sense. CCG is requesting a weir skimmer with brush adaptor to be mounted on top This is a free floating device and the skimmer would draw from all sides of the unit – i.e. 360 degrees. How would a boom attachment be viable?

## **Response to Question 2**

There is no requirement for boom connectors to be incorporated into the weir skimmer, however, if the proposed system has boom connectors, requirement B2.15 specifies that they must be capable of interfacing with the containment boom connector defined in ASTM F962-04 (2010), Standard Specification for Oil Spill Response Boom Connection: Z-Connector.

## **Question 3**

*B5.8. The hydraulically powered reel must have the ability to be rotated manually (without power).*

It is not possible to deliver a reel with a center gear and option for freewheeling. We can deliver a separate lever operated hydraulic pump so that the reel can rotate "manually". Would this solution be acceptable?

## **Response to Question 3**

Yes, this solution would be acceptable, as per requirements B5.4 and B5.8.

## **Question 4**

*B6.1. The components of the Weir Skimmer Package must be stored in a single standard type 1D (10 ft) ISO container that adheres to the dimensions specified in ISO 668: Series 1 freight containers – Classification, dimensions and ratings.*

The powerpacks for the required capacity must be large and Tier 4 compliant. The hose reel will also be quite large due to the nature of the hose and reel itself. It is not likely that all of the equipment can fit in one 10ft container. Would a larger container or two 10 foot containers be acceptable? Or some equipment outside of the main storage container as an alternative?

## **Response to Question 4**

The preference is for all components of the system to be stored in a single standard type 1D (10 ft) ISO container, however, Canada will accept up to two standard type 1D (10 ft) ISO containers. Requirement B6.1. has been amended to reflect this change.

## **Change to the SOW Requirement B6.1**

**DELETE** B6.1 in its entirety

## **INSERT as follows:**

B6.1 as follows: The components of the Weir Skimmer Package must be stored in one or two standard type 1D (10 ft) ISO container(s) that adheres to the dimensions specified in ISO 668: Series 1 freight containers – Classification, dimensions and ratings.

## Question 5

*B2.9e The Weir Skimmer head must incorporate a pump that:*

- a. Has inlet steam and hot water injection capabilities;*
- b. Can pump oil and bitumen of at least 200,000 cSt at a 45 m [147.64 ft] distance, at a height of 5.5 m [18 ft] and at a minimum rate of 70% of the pump's nameplate;*
- c. Does not create an oil-water emulsions during pumping;*
- d. Includes debris cutting knives; and*
- e. Includes annular water injection capabilities at the discharge side of the pump.*

Is the Annular water pump and related equipment to be provided with the kit? Or just the discharge annual water flange?

## Response to Question 5

No, the annular water pump and related equipment do not need to be provided with the kit, however, the pump must include annular water injection capabilities at the discharge side of the pump (i.e. flange).

## Question 6

*B2.10 All oil recovery performance data must be collected in accordance with the general procedure defined in:*

- a. ASTM F631-15, Standard Guide for Collecting Skimming Performance Data in Controlled Environments; or*
- b. The test protocol defined in ASTM F2709-15, Standard Test Method for Determining a Measured Nameplate Recovery Rate of Stationary Oil Skimmers.*

This section references oil recovery performance data. Do we assume this is only for the unit as fitted with a weir? We do not see any performance data requirement for the brush adaptor so do we assume there is no performance requirement for the brush? What exactly does this performance data requirement refer to? A weir skimmer is essentially rated as nameplate so the pump capacity in our view is the only pertinent value of performance.

## Response to Question 6

That is correct, the nameplate pump capacity is the oil performance data we are looking for. There is no performance data requirement for the brush adaptor, as indicated in requirement B.2.3.

## Question 7

*B.4.5 The minimum rated pressure of all fitted, flexible hose assemblies must exceed the working pressure that they may be subjected to while in service. All hose assemblies must be static pressure tested to 1.5 times their rated working pressure for a minimum of 1 hour to confirm no leakage.*

Are test certificates required for each hose assembly – i.e. Serial test or is a type test sufficient (i.e. certificate covering this type of assembly only)?

### **Response to Question 7**

A type test certificate is sufficient for each hose type and hose length.

### **Question 8**

*B.4.6 A floatation sleeve must be provided to allow all hoses to retain buoyancy even when filled during operation.*

Is the entire length of hoses (45m) all to be encased in a floating sleeve or is there to be some uncovered hose length exceeding the floating sleeve length? Some length of hose at each end would need to exceed the sleeve length to allow for connections at various points.

### **Response to Question 8**

The only requirement is that the floatation sleeve allows the hoses to retain buoyancy when filled during operation.

### **Question 9**

*B.4.1 All hydraulic hose assemblies required to operate all the components of the Weir Skimmer Package must be included in the package and must be fitted with quick connect fittings. Hoses must be at least 45 m in length, divided into three sections of 15 m in length.*

*B.4.6 A floatation sleeve must be provided to allow all hoses to retain buoyancy even when filled during operation.*

Would water hoses also be required in the hose sets under B.4.1? If not provided would CCG want placeholders in the floatation sleeve above described in B.4.6?

### **Response to Question 9**

No. B.4.1 only refers to hydraulic hoses. As previously stated in answer #5 regarding annular water injection capabilities at the discharge side of the pump, the annular water pump and related equipment (such as water hoses) do not need to be provided with the kit. There is no need for a placeholder in the floatation sleeve described in B.4.6.

## **2.Amendments to Annex A – Weir Skimmers Statement Of Work**

Delete: Annex A in its entirety.  
Insert: Annex A as attached

**All other Terms and Conditions remain unchanged**

**Annex A**  
Statement of Work

**45m<sup>3</sup>/h and 90m<sup>3</sup>/h Weir Skimmers**



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# 1. INTRODUCTION

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## 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 45m<sup>3</sup>/h and 90m<sup>3</sup>/h capacity weir skimmers to recover spilled oil in sheltered, offshore, and unsheltered waters.

This Statement of Work (SOW) defines the performance requirements, technical specifications and deliverables required for the provision of the Weir Skimmers, hereinafter referred to as the “Weir Skimmer Packages”.

Each Weir Skimmer Package will consist of the following major components:

- a. A skimmer head;
- b. A brush adaptor for the skimmer head;
- c. A hydraulic hose reel;
- d. A hydraulic power unit (HPU); and
- e. A storage container.

## 1.3. SCOPE

Any requirements, specifications, and other indications in this SOW regarding the work required in the provision of the Weir Skimmer Packages also pertain to each individual component of the Weir Skimmer Package, whether they are purchased together as a complete package, as individual items, or in any other combinations.

## 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. Conversions from one system of measurement to the other may not be exact.

## 2. PROJECT MANAGEMENT

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### 2.1. GENERAL

The Contractor must identify a Project Manager to oversee all work needed to satisfy contractual requirements (i.e., tasks, deliverables, resources, schedule, and quality). The Project Manager must be the main point of contact with Canada.

The Contractor must prepare, deliver, and maintain all project deliverables in accordance with:

- a. Appendix 1: Contract Data Requirement List (CDRL);
- b. Appendix 2: Data Item Descriptions (DIDs); and
- c. Annex A: Statement of Work (SOW).

### 2.2. PROJECT SCHEDULE

The Contractor must provide a Project Schedule in accordance with **CDRL item DID-PM-01**, for review and acceptance by Canada.

### 2.3. PROJECT REVIEW AND CONTROL

#### 2.3.1. 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 Meeting Agenda for each scheduled meeting at least three (3) business days before it is set to occur and a comprehensive Record of Decisions no later than three (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.

#### 2.3.2. 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 **CDRL item DID-PM-01**);
- c. Preliminary Detailed Design Packages (as per **CDRL items DID-SE-01 (a & b)**).

To facilitate the review of the documentation and foster discussion, the Contractor must provide one soft copy of the Project Schedule **CDRL item DID-PM-01** and preliminary Detailed Design Packages **CDRL items DID-SE-01 (a & b)** at least three (3) business days prior to the scheduled Contract Kick-off Meeting.

#### 2.3.3. Bi-weekly Progress Report

The Contractor must provide bi-weekly (occurring once every two weeks) progress reports, as per **CDRL item DID-PM-02** to Canada via electronic-mail (e-mail). The Contractor must submit each bi-weekly progress report by 4PM Friday, Eastern Time (ET). The bi-weekly progress report must include any

progress during the reporting period, an updated schedule that identifies any slippage, decisions and action items from the weekly progress meetings and the identification of risks.

#### **2.3.4. Weekly Progress Meeting (Teleconference)**

Unless otherwise specified by Canada, the Contractor must chair a weekly progress meeting to review Contract progress, the schedule, action items and risks. Subcontractors may be required to attend.

#### **2.3.5. Cancellation of Meetings**

Canada may cancel meetings at its discretion. Rescheduling of meetings must be done only with the explicit agreement of Canada.

#### **2.3.6. Unscheduled Meetings**

The Contractor must provide representation should there be a need for additional meetings.

#### **2.3.7. Problem Reporting**

The Contractor must notify Canada immediately by email upon discovering or identifying an issue that may impact the Work. Canada will advise whether an unscheduled meeting or any other action is required.

#### **2.3.8. Delivery Instructions**

Each Weir Skimmer Package must be delivered complete in all respects in accordance with the requirements outlined in the Statement of Work, Annex A. 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.

## 3. SYSTEM ENGINEERING MANAGEMENT

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### 3.1. DESIGN REVIEW PROCESS

#### 3.1.1. Overview

The Contractor is required to design both Weir Skimmer Package configurations (A & B) in accordance with the requirements defined in Section 6.

#### 3.1.2. Preliminary Design Review

- 3.1.2.1. The Contractor must submit a preliminary version of the Detailed Design Packages **CDRL items DID-SE-01 (a & b)** for review no later than three (3) business days prior to the Contract Kick-Off meeting.
- 3.1.2.2. After the Contract Kick-Off Meeting, the Contractor must update the Detailed Design Packages **CDRL items DID-SE-01 (a & b)** as applicable based on the Record of Decisions.

#### 3.1.3. Design Review Meetings

At CCG's request, the Contractor must organize and co-chair additional design review meetings to support the development of the technical solution. The Contractor must provide an updated version of the Detailed Design Packages **CDRL items DID-SE-01 (a & b)** following any changes resulting from these design meetings.

### 3.2. PRODUCT VERIFICATION

#### 3.2.1. Overview

- 3.2.1.1. The Contractor must provide Product Verification Plans **CDRL items DID-SE-02 (a & b)** to define how the designs specified by **CDRL items DID-SE-01 (a & b)** will be assessed for compliance with the requirements in Section 6. The first draft must be submitted no later than fifteen (15) business days after the approval of **CDRL items DID-SE-01 (a & b)**.
- 3.2.1.2. Unless otherwise specified by Canada, all product verification activities must be conducted at the Contractor's designated facility in the presence of a representative of Canada.
- 3.2.1.3. 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. Photos, video or live streaming will be required in the event that Canada is unable to attend in person. The format must be reviewed and accepted by Canada prior to any verification activities.

#### 3.2.2. Product Verification Readiness Review

- 3.2.2.1. The Contractor must organize and chair a Product Verification Readiness Review Meeting before conducting any product verification activities. The purpose of the meeting is to ensure that the Weir Skimmer Packages are ready to proceed into formal product verification. The Product Verification Readiness Review assesses verification objectives, methods and procedures, and confirms that the required verification resources have been properly identified and coordinated to support the planned verification activities.
- 3.2.2.2. The Contractor must provide the Product Verification Plans **CDRL items DID-SE-02 (a & b)** and the first submission of the Lifting Certifications and Rigging Plans **DID-SE-06 (a & b)** at least ten (10) business days in advance of the Product Verification Readiness Review Meeting.

- 3.2.2.3. The Contractor must distribute a Record of Decisions documenting all relevant decisions and actions no later than three (3) business days after the Product Verification Readiness Review Meeting.
- 3.2.2.4. After the Product Verification Readiness Review Meeting, the Contractor must update the Product Verification Plans **CDRL items DID-SE-02 (a & b)** as applicable based on the Product Verification Readiness Review Meeting Record of Decisions.
- 3.2.2.5. The Contractor must not proceed with any verification activities until the Product Verification Plans **CDRL items DID-SE-02 (a & b)** have been accepted by Canada.
- 3.2.2.6. Once approved, the Contractor may proceed with verification activities for each configuration in accordance with the information provided in the Product Verification Plans **CDRL items DID-SE-02 (a & b)**.
- 3.2.2.7. Following completion of verification activities, the Contractor must provide a Product Verification Report in accordance with **CDRL item DID-SE-03 (a & b)**, for review and acceptance by Canada.

### **3.2.3. Final Design Acceptance**

- 3.2.3.1. The Contractor may request final design acceptance from Canada when:
  - a. The Detailed Design Packages **CDRL items DID-SE-01 (a & b)** have been updated to represent the approved design and accepted by Canada;
  - b. The Product Verification Reports **CDRL items DID-SE-03 (a & b)** have been accepted by Canada;
  - c. The Quality Assurance Plans **CRDL items DID-SE-04 (a & b)** have been accepted by Canada; and
  - d. The Lifting Certifications and Rigging Plans **CDRL items DID-SE-06 (a & b)** have been accepted by Canada.
- 3.2.3.2. All equipment deliverables must be supplied in accordance with the final accepted Detailed Design Packages **CDRL items DID-SE-01 (a & b)**.
- 3.2.3.3. The Contractor must obtain final design acceptance prior to the manufacturing of the second and all subsequent units for each configuration. Any costs incurred prior to final design acceptance are at the contractor's own risk.

## **3.3. TECHNICAL DATA SUBMISSIONS**

### **3.3.1. First Submission**

- 3.3.1.1. The Contractor must submit drafts of the following documents no later than twenty (20) business days prior to shipment of the first Weir Skimmer Package for each configuration:
  - a. Operations and Maintenance Manual **CDRL item DID-TM-01 (a or b)**
  - b. Recommended Spare Parts and Tools List **CRDL item DID-TM-02 (a or b)**
  - c. Master Equipment List **CDRL item DID-TM-04 (a or b)**
  - d. Illustrated Instructions **CDRL item DID-TM-05 (a or b)**
- 3.3.1.2. The Contractor must submit the As-Built Drawing Package **CDRL item DID-TM-03 (a or b)** for each Weir Skimmer configuration prior to shipment.

### 3.3.2. Document review

- 3.3.2.1. Canada has thirty (30) calendar days after receiving the first Weir Skimmer Package for each configuration to provide comments on the draft submissions of **DID-TM-01 (a & b)**, **DID-TM-02 (a & b)**, **DID-TM-03 (a & b)**, **DID-TM-04 (a & b)** and **DID-TM-05 (a & b)**.
- 3.3.2.2. The Contractor must submit a revised version of each deliverable no later than ten (10) business days after receiving comments from Canada.

### 3.3.3. Translation

- 3.3.3.1. The Contractor should not translate any technical submissions until the first submission (either English or French) has been accepted by Canada.

## 3.4. QUALITY ASSURANCE

Once the Weir Skimmer Packages (configurations A & B) have undergone product verification and been formally approved by Canada, the Contractor may begin mass production. During manufacturing, the Contractor must inspect the Weir Skimmer Packages to ensure that they have been manufactured in accordance with the designs 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 **CDRL item DID-SE-04 (a or b)** and submitted to Canada for review and approval.

### 3.4.1. Quality Assurance Report

- Prior to shipping each Weir Skimmer Package, the Contractor must:
- a. Inspect the Weir Skimmer Package(s);
  - b. Submit a Quality Assurance Report for the Weir Skimmer Package, as per **CDRL item DID-SE-04 (a or b)**; and
  - c. Obtain Canada's formal approval of the Weir Skimmer Package and the Quality Assurance Report. Each Quality Assurance Report must be formally accepted by Canada prior to shipping each Weir Skimmer Package.

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## 4. EQUIPMENT TRAINING AND COMMISSIONING

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### 4.1. EQUIPMENT TRAINING AND FAMILIARIZATION

#### 4.1.1. General Considerations

There are two different types of optional equipment training and familiarization sessions intended to ensure that CCG personnel are appropriately trained on the safe operation and maintenance practices for the Weir Skimmer Packages. The two different training sessions are:

- A) Technical Maintenance Training; and
- B) Operational Training

The Contractor must provide an Equipment Training and Familiarization Plan, as per **CDRL item DID-ETC-01**, for review and acceptance by Canada. The Equipment Training and Familiarization Plan must cover both configurations (45m<sup>3</sup>/h & 90m<sup>3</sup>/h). The final version of the Equipment Training and Familiarization Plan must be formally accepted by Canada before training options can be exercised.

The Contractor must provide all Equipment Training and Familiarization Materials, as per **CDRL item DID-ETC-02**, for review and acceptance by Canada. The Equipment Training and Familiarization Materials must cover both configurations (45m<sup>3</sup>/h & 90m<sup>3</sup>/h). The final version of the Equipment Training and Familiarization Materials must be formally accepted by Canada before training options can be exercised. All training materials must be bilingual (English and Canadian French).

Unless otherwise specified by Canada, all equipment training and familiarization sessions will be conducted at CCG facilities in locations identified in Schedule B - Deliveries and Milestones. The training sessions will be delivered in either English or French. Canada will confirm the required language of each session prior to delivery.

### 4.2. TECHNICAL MAINTENANCE TRAINING

#### 4.2.1. Objective

The objective of the Technical Maintenance Training Session is to provide participants with an understanding of all components of the Weir Skimmer Package, the safe manner of operation, appropriate maintenance practices, and associated limitations of all the equipment to allow for the proper care and maintenance of the Weir Skimmer Package. Unless otherwise specified by Canada, the Contractor must deliver the Technical Maintenance Training Session using a combination of classroom (theoretical) and in-field (practical) training.

#### 4.2.2. Class Size and Participants

Each Technical Maintenance Training Session will be attended by certified CCG ER trainers, with the potential of additional personnel of varying experience and knowledge of ER equipment. It is anticipated that 6-10 participants will attend each Technical Maintenance Training Session. Training materials must be supplied to all participants.

#### 4.2.3. Scheduling and Duration

The Technical Maintenance Training Session will be scheduled following delivery at a time that is agreed upon by Canada and the Contractor. Unless otherwise specified by Canada, the Technical Maintenance Training Session is expected to be delivered in one (1) full workday (i.e., 8 hours) for each configuration. The Technical Maintenance Training Session must be a distinct session from the Operational Training Session (Section 4.3).

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## 4.3. OPERATIONAL TRAINING

### 4.3.1. Objective

The objective of the Operational Training Session is to provide participants with a working knowledge of the Weir Skimmer Package to allow for the safe operation of the system in normal operational conditions. Unless otherwise specified by Canada, the Contractor must deliver the Operational Training Session using a combination of classroom (theoretical) and in-field (practical) training.

### 4.3.2. Class Size and Participants

Each Operational Training Session will be attended by certified CCG ER trainers, with the potential of additional personnel of varying experience and knowledge of ER equipment. It is anticipated that 6-10 participants will attend each Operational Training Session. Training materials must be supplied to all participants.

### 4.3.3. Scheduling and Duration

The Operational Training Session will be scheduled following delivery at a time that is agreed upon by Canada and the Contractor. Unless otherwise specified by Canada, the Operational Training Session is expected to be delivered in one (1) full workday (i.e., 8 hours) for each configuration. The Operational Training Session must be a distinct session from the Technical Maintenance Training Session (Section 4.2).

## 4.4. COMMISSIONING

### 4.4.1. General considerations

Commissioning is a comprehensive and systematic process to verify that all deliverables, once delivered to their final destination, are complete in all respects, in working condition, ready for active service and operation.

The Contractor must submit Commissioning Plans **CDRL items DID-ETC-03 (a & b)** for review and acceptance by Canada. The first draft must be submitted no later than twenty (20) business days prior to the shipment of the first Weir Skimmer Package.

### 4.4.2. Vendor Led Commissioning Session

In the event that Canada exercises options for a vendor led commissioning session, all deliverables must be commissioned by the Contractor to place the equipment into working condition, ready for active service and operation. Canada will ensure operational personnel and/or Subject Matter Experts (SMEs) are present to observe the Contractor's work during the commissioning process. The Contractor must provide all labor, material, and services to complete the commissioning process in accordance with the Contract. The Contractor will ensure that all deliverables (including the Weir Skimmer Package(s) and/or any components/equipment thereof acquired as individual Items) are left in an operationally ready state upon completion of commissioning (i.e., no further set-up or configuration is necessary; the equipment can be deployed as-is for operation).

The Commissioning process must be a distinct session from both the Technical Maintenance Training Session (Section 4.2) and the Operational Training Session (Section 4.3).

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## **5. REFERENCE DOCUMENTATION**

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### **5.1. ORDER OF PRECEDENCE**

In the event of a discrepancy between the requirements in Section 6 and the standards and specifications referenced herein, the content of Section 6 must take precedence, however, nothing in these requirements supersedes any applicable laws and regulations.

### **5.2. APPLICABLE STANDARDS AND REGULATIONS**

The Weir Skimmer Package 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 Weir Skimmer Package:

- ASTM F625/F625M-94: Standard Practice for Classifying Water Bodies for Spill Control Systems.
- ASTM F631-15: Standard Guide for Collecting Skimming Performance Data in Controlled Environments
- ASTM F2709-15: Standard Test Method for Determining a Measured Nameplate Recovery Rate of Stationary Oil Skimmers
- ASTM F962-04: Standard Specification for Oil Spill Response Boom Connection: Z-Connector
- SOR/2005-3: Off-Road Compression-Ignition Engine Emission Regulations
- ISO 668: Series 1 freight containers – Classification, dimensions and ratings
- ISO 1496-1: Series 1 freight containers - Specification and testing – Part 1: General cargo containers for general purposes
- ISO 7010: Graphical symbols – Safety colours and safety signs – Registered safety signs

### **5.3. SUPERSEDEENCE**

Unless otherwise specified by Canada, any amendment issued to the documents specified in 5.2 must reflect the version in effect on the date of Contract award.

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## 6.

## WEIR SKIMMER PACKAGE REQUIREMENTS

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### 6.1. DESIGN OVERVIEW

- a. The selection of equipment, fittings, fasteners, hardware, attachments, and fabrication methods used in the Weir Skimmer Package must be standardized to minimize the number of unique spares. Identical components must be used in all Weir Skimmer Packages, following Canada's design acceptance.
- b. All equipment must be installed per the OEM installation recommendations.

### 6.2. REQUIREMENT VERIFICATION METHODS

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	Definition
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 a dimension not exceed a width of 2.6m, the design review confirms the design width 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.
Demonstration	Showing that the use of an end product achieves the individual specified requirement. It is generally a basic confirmation of performance capability, differentiated from testing by the lack of detailed data gathering. Demonstrations can involve the use of physical models or mock-ups. A demonstration could also be the actual operation of the end product by qualified personnel, who perform a one-time event that demonstrates a capability or function.
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.

### 6.3. OPERATIONAL REQUIREMENTS

The Weir Skimmer Package must meet the following operational requirements:

#### A.1 Operational Requirements

Req.#	Requirement	Requirement Verification Method
A.1.1	The Weir Skimmer Package must meet all requirements while operating in air temperatures ranging from -20°C to +40°C and while also subjected to rain, sleet, snow, and ocean spray.	Analysis
A.1.2	The Weir Skimmer Package must be deployable in water temperatures ranging from -2°C to +30°C in both freshwater and saltwater environments.	Analysis
A.1.3	The Weir Skimmer Package must be fully operational after being stored for 30 consecutive days or longer in environments with an ambient air temperature ranging from -40°C to +40°C and when all batteries have been fully charged.	Analysis
A.1.4	The Weir Skimmer Package must be deployable, operable, and retrievable by 2 or fewer personnel.	Demonstration
A.1.5	All in-field assembly, disassembly, and adjustments required for operation of the Weir Skimmer system, must: <ul style="list-style-type: none"> <li>a. Be able to be completed in less than 20 minutes</li> <li>b. Be able to be completed by two personnel or fewer; and</li> <li>c. Be able to be performed without the need for specialized tools.</li> </ul>	Demonstration

### 6.4. WEIR SKIMMER REQUIREMENTS

The Weir Skimmer Package must meet the following requirements:

#### B.1 General Requirements

Req. #	Requirement	Requirement Verification Method
B.1.1	The Weir Skimmer Package must be designed to have a service life of a minimum of 20 years when manufacturer-recommended maintenance is followed.	Analysis
B.1.2	All components of the Weir Skimmer Package that will go into the water during the course of normal operations must be abrasion-resistant to prevent damage from floating debris. All components of	Inspection

	the Weir Skimmer Package must be of durable and robust construction.	
B.1.3	All operator control positions of the Weir Skimmer Package must be provided with an easy to activate mechanical mechanism (such as a red emergency push to stop button) that will instantaneously stop all motion and power of all mechanical and electrical systems.	Inspection
B.1.4	The minimum safety factor of all hoisting points (and the adjacent support structure) must be at least 6-to-1; i.e., the ratio of the minimum breaking strength (MBS) to the working load limit (WLL). Design calculations supporting the safety factor of all hoisting points must be certified by a licensed engineer.	Analysis

## B.2 Skimmer Head

Req. #	Requirement	Requirement Verification Method
B.2.1	The Weir Skimmer system must have, at a minimum, a nameplate collection and pumping capacity of: Configuration A: 45 m <sup>3</sup> /hr Configuration B: 90 m <sup>3</sup> /hr All other requirements apply to both configurations. <b>Note:</b> CCG is seeking two separate systems with the capacities described above. Each Weir Skimmer Package includes one skimmer head which meets the capacity of either Configuration A or B.	Test
B.2.2	The Weir Skimmer head must be, at a minimum, capable of recovering light to heavy free floating oils and bitumen up to at least 200,000 centistokes (cSt).	Analysis
B.2.3	A removable hydraulically powered brush adaptor must be supplied with the Weir Skimmer head. The brush adapter must be easily attachable and detachable from the top of the weir and must improve the skimmer's efficiency in light to medium viscosity oils.	Inspection
B.2.4	The body of the Weir Skimmer head must be constructed of a corrosion-resistant material that is compatible with hydrocarbon oils and bitumen.	Inspection
B.2.5	The Weir Skimmer head must incorporate floatation elements that: <ul style="list-style-type: none"> <li>a. Are non inflatable;</li> <li>b. Are adjustable;</li> <li>c. Are removable for ease of storage; and</li> </ul>	Demonstration

	d. Allow for operation of the skimmer while free floating.	
B.2.6	The Weir Skimmer head must be capable of maintaining buoyancy should any single floatation element(s) be breached.	Analysis
B.2.7	The Weir Skimmer head must be capable of free floating in sea conditions up to Beaufort Force four (4) sea state without capsizing.	Analysis
B.2.8	The Weir Skimmer head must be self-adjusting (allowing for the weir to move independently from the skimmer head floats).	Demonstration
B.2.9	The Weir Skimmer head must incorporate a pump that: <ul style="list-style-type: none"> <li>a. Has inlet steam and hot water injection capabilities;</li> <li>b. Can pump oil and bitumen of at least 200,000 cSt at a 45 m [147.64 ft] distance, at a height of 5.5 m [18 ft] and at a minimum rate of 70% of the pump's nameplate;</li> <li>c. Does not create an oil-water emulsions during pumping;</li> <li>d. Includes debris cutting knives; and</li> <li>e. Includes annular water injection capabilities at the discharge side of the pump.</li> </ul>	Analysis and Inspection
B.2.10	All oil recovery performance data must be collected in accordance with the general procedure defined in: <ul style="list-style-type: none"> <li>a. ASTM F631-15, Standard Guide for Collecting Skimming Performance Data in Controlled Environments; or</li> <li>b. The test protocol defined in ASTM F2709-15, Standard Test Method for Determining a Measured Nameplate Recovery Rate of Stationary Oil Skimmers.</li> </ul>	Test and Analysis
B.2.11	All oil recovery performance data must be collected or verified by one of the following entities: <ul style="list-style-type: none"> <li>a. A classification society, such as Det Norske, Veritas, American Bureau Standards, Bureau Veritas, or Lloyd's Register;</li> <li>b. An independent laboratory; or</li> <li>c. An independent test facility, such as Ohmsett.</li> </ul>	Test and Analysis
B.2.12	The Weir Skimmer head must incorporate an easily accessible and removable debris screen.	Inspection
B.2.13	The Weir Skimmer head must incorporate a certified single lifting point for deployment and recovery.	Inspection

B.2.14	The Weir Skimmer head must incorporate wheels or other such mechanisms that allow for an operator to easily and manually remove the skimmer head from the storage container.	Demonstration
B.2.15	All boom connectors incorporated into the Weir Skimmer Package must be capable of interfacing with the containment boom connector defined in ASTM F962-04 (2010), Standard Specification for Oil Spill Response Boom Connection: Z-Connector. The following exceptions apply to this Standard: <ul style="list-style-type: none"> <li>a. Toggle pin holes must be located 4.5 inches above and below the design waterline (DWL); and</li> <li>b. The toggle pin hole diameter must be 13/32 inches (+0.006"/-0.0375").</li> </ul>	Inspection

### B.3 Hydraulic Power Unit

Req. #	Requirement	Requirement Verification Method
B.3.1	The Weir Skimmer Package must include one Hydraulic Power Unit (HPU) that is designed to connect to and provide the hydraulic needs of all the components of the Weir Skimmer Package.	Analysis and Inspection
B.3.2	The Weir Skimmer Package HPU must be sized to provide all the required hydraulic pressure and volume without being at its maximum output.	Demonstration
B.3.3	The power supply of the HPU must be diesel-powered and must satisfy the Tier 4 emission standards referenced in SOR/2005-32, Off-Road Compression-Ignition Engine Emission Regulations.	Analysis
B.3.4	Both a tethered and a wireless remote must be provided for the HPU that allows for operation of the skimmer system hydraulic components from up to ten (10) meters from the HPU. The remotes must be furnished with an instantaneous stop feature, as per B.1.3	Demonstration and Inspection
B.3.5	The Weir Skimmer Package HPU frame must be fitted with a cage that has four lift points, four tie down points, and be designed to support the factory built unit with frame.	Inspection
B.3.6	The Weir Skimmer Package HPU frame must be fitted with two forklift pockets to accommodate two 4 inch (10.16 cm) wide, 2-1/4 inch thick forks the length or width of the frame, spaced approximately 24-inches apart (61 cm). Placement of the forklift pockets should be such that the load is balanced and must be positioned towards the Weir Skimmer Package container doors.	Inspection

#### B.4 Hose Assemblies

Req. #	Requirement	Requirement Verification Method
B.4.1	All hydraulic hose assemblies required to operate all the components of the Weir Skimmer Package must be included in the package and must be fitted with quick connect fittings. Hoses must be at least 45 m in length, divided into three sections of 15 m in length.	Inspection
B.4.2	All oil transfer hose assemblies required for the operation of the Weir Skimmer Package must be included in the package. Hoses must be at least 45 m in length, divided into three sections of 15 m in length.	Inspection
B.4.3	The provided oil transfer hoses must be compatible with petroleum products.	Inspection
B.4.4	The provided oil transfer hose connections must be Camlock with one male end and one female end in accordance with A-A-59326 Commercial Item Description Coupling Halves, Quick-Disconnect, Cam-Locking Type. The Camlock material must be of either Class I, III, or IV as defined within this standard.	Inspection
B.4.5	The minimum rated pressure of all fitted, flexible hose assemblies must exceed the working pressure that they may be subjected to while in service. All hose assemblies must be static pressure tested to 1.5 times their rated working pressure for a minimum of 1 hour to confirm no leakage.	Test
B.4.6	A floatation sleeve must be provided to allow all hoses to retain buoyancy even when filled during operation.	Demonstration
B.4.7	Hoses of at least 10 m in length must be provided for the connections between the HPU and any shoreside or shipside component of the Weir Skimmer package that requires hydraulic power.	Inspection
B.4.8	All hydraulic and water/steam injection connections meant to be connected and disconnected regularly must be provided with locking quick connect fitting to ensure the operator's safety.	Demonstration
B.4.9	Appropriately sized dust caps must be provided for all open hydraulic fittings.	Inspection

B.4.10	All hydraulic lines must be provided with hose whip restraints to prevent injury in case of unexpected disconnection.	Inspection
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### B.5 Hydraulic Reel

Req. #	Requirement	Requirement Verification Method
B.5.1	One hydraulically powered reel must be supplied to hold the hoses during operation and storage. The reel must be able to operate from both inside and outside the Weir Skimmer package container.	Demonstration
B.5.2	The hydraulically powered reel must be sized to hold all hoses supplied with the Weir Skimmer Package.	Demonstration
B.5.3	The hydraulically powered reel must be capable of operating in forward and reverse directions with variable speed control.	Demonstration
B.5.4	The hydraulically powered reel must be: <ul style="list-style-type: none"> <li>a. Equipped with a breaking mechanism to halt rotation and hold it in a static position;</li> <li>b. Equipped with an emergency bypass valve to allow for manual rotation;</li> <li>c. Coaxially located between two bearing assemblies to facilitate rotation; and</li> <li>d. Properly balance to preclude unnecessary shaft vibration and wear.</li> </ul>	Inspection
B.5.5	The output shaft of the drivetrain of the hydraulically powered reel must: <ul style="list-style-type: none"> <li>a. Be coaxial with the reel; and</li> <li>b. Connect directly to the reel. The use of chains, belts, or other non-gear mechanical devices to transmit rotation to the reel is prohibited.</li> </ul>	Inspection
B.5.6	Any spoked section of the reel must be capped off with a metal plate to eliminate pinch points and snag points.	Inspection
B.5.7	All hoses, cables, and parts necessary to operate the hydraulic reel in conjunction with the other components of the Weir Skimmer Package must be supplied.	Demonstration
B.5.8	The hydraulically powered reel must have the ability to be rotated manually (without power).	Demonstration

## B.6 Storage Container

Req. #	Requirement	Requirement Verification Method
B.6.1	The components of the Weir Skimmer Package must be stored in one or two standard type 1D (10 ft) ISO container(s) that adheres to the dimensions specified in ISO 668: Series 1 freight containers – Classification, dimensions and ratings.	Inspection
B.6.2	The container must follow the requirements defined in ISO 1496-1: Series 1 freight containers - Specification and testing – Part 1: General cargo containers for general purposes.	Analysis
B.6.3	The container must be provided with forklift pockets meeting the dimensions and requirements of ISO 1496-1: Series 1 freight containers - Specification and testing – Part 1: General cargo containers for general purposes.	Inspection
B.6.4	The forklift pockets must allow for the container to be safely moved by forklift when the container is fully loaded.	Analysis and Demonstration
B.6.5	A securely fastened waterproof document holder sized to store all the operation and maintenance manuals must be affixed in an easily accessible location within the storage container.	Inspection
B.6.6	Any container that will be used to store machinery that uses combustible fuels must comply with the ventilation requirements in B.6.7 to B.6.11.	Inspection
B.6.7	The container must include one ventilation opening located within 150 millimetres above the floor and a second ventilation opening within 150 millimetres below the top of the container, on the primary doors (i.e., the doors that are primarily used for accessing the container contents).	Inspection
B.6.8	The container must include two additional vents positioned as described in B.6.7, opposite the primary door or wall (i.e., the vents must be positioned for cross-ventilation).	Inspection
B.6.9	The ventilation openings must have dimensions not less than 300-millimetre length and 300-millimetre width for 10 ft ISO containers and no less than 500-millimetre length and 500-millimetre width for 20 ft ISO containers.	Inspection
B.6.10	The ventilation openings must be covered by open grate wire mesh with greater than 50% free area.	Inspection

B.6.11	The Proposed locations and type of vent is subject to Canada review and approval.	Inspection
B.6.12	The container must be provided with all necessary securing and lashing provisions for the equipment it will contain.	Inspection

### B.7 Identification and Markings

Req. #	Requirement	Requirement Verification Method
B.7.1	The vendor must provide a unique product identifier for each component of the Weir Skimmer Package. The product identifier must comply with the following format: DD-MM-YYYY-Manufacturer's Serial #. Proposed product identifier is subject to Canada's acceptance.	Inspection
B.7.2	Label plates in both Canadian English and French must be used to identify each control, switch, gauge, and display. Label plates must also be used to indicate safe working limits, maximum capacities, and masses of equipment.	Inspection
B.7.3	Label plates must be manufactured to last a minimum of 20 years under typical use.	Analysis
B.7.4	The Weir Skimmer Package must indicate all hazards with both Canadian English and French warning labels or clear graphical symbols per ISO 7010, Graphical symbols – Safety colours and safety signs – Registered safety signs.	Inspection
B.7.5	The Weir Skimmer Package must include Illustrated Instructions, as per DID-TM-05.	Inspection
B.7.6	The content and arrangement of all label plates and of the Illustrated Instruction must be approved by Canada prior to installation.	Inspection

### B.8 Hoisting Slings and Hardware

\*Hoisting Slings and Hardware are optional units and not part of the standard Weir Skimmer Package

Req. #	Requirement	Requirement Verification Method
B.8.1	The hoisting slings must be provided with all the necessary hardware and components required to lift a full Weir Skimmer Package storage container via an overhead crane.	Inspection
B.8.2	The hoisting slings and provided hardware must be capable of lifting an Weir Skimmer Package container when full.	Demonstration

B.8.3	<p>Each supplied sling must be permanently marked with the following:</p> <ul style="list-style-type: none"> <li>a. a unique identifier;</li> <li>b. the WLL;</li> <li>c. the sling length</li> <li>d. the sling material;</li> <li>e. the manufacturer; and</li> <li>f. the date of manufacture.</li> </ul>	Inspection
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## 6.5. FABRICATION REQUIREMENTS

The Weir Skimmer Package must meet the following fabrication requirements:

Req. #	Requirement	Requirement Verification Method
C.1	The Weir Skimmer Package must be constructed and finished with a high degree of workmanship, where surfaces are free from blemishes, burrs, defects, irregularities, sharp edges, and other conditions that would be deleterious to the finished component.	Inspection
C.2	Parts must be properly aligned to preclude any binding and deformation as a result of assembly or operation.	Inspection
C.3	All equipment subject to freezing temperatures must be kept drained, except during testing and commissioning.	Inspection
C.4	All parts and equipment must be kept clean and protected against dust, moisture, rapid temperature changes, and foreign matter during manufacture, storage, pre-installation staging, assembly, installation, and post installation.	Inspection
C.5	All materials used in fabrication must be new, unused and free from defects and imperfection that might affect the serviceability of the finished product; resist corrosion and wear under the environmental conditions specified; and sized or selected to satisfy all the performance requirements specified.	Inspection
C.6	All synthetic polymers subjected to sunlight must be treated to protect against ultraviolet (UV) degradation, embrittlement, and mold.	Analysis
C.7	All elastomeric materials in unassembled components and assemblies must contain at least 90% of the initial storage period (as recommended in ISO 2230:2002, Rubber Products – Guidelines for Storage) at the date of delivery to Canada.	Analysis

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C.8	Direct contact between dissimilar metals expected to cause galvanic corrosion must be avoided. If such contact cannot be avoided, an insulating material must be installed between the dissimilar metals to minimize the corrosive effect. The Contractor may propose alternate methods to minimize galvanic corrosion for consideration by Canada.	Inspection
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## **APPENDIX 1      CONTRACT DATA REQUIREMENTS LIST**

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The following table defines the columns of information found on the Contract Data Requirements List (CDRL). The CDRL is an all-encompassing table illustrating the submission details associated with each Data Item Deliverable (DID). Each DID details the content required for all contract deliverables.

### **IDENTIFICATION NUMBER (ID #)**

The Identification number is an alphanumeric designation to uniquely identify each individual DID. Note that the DIDs are categorized using the following designation:

- Project Management is defined with 'PM';
- System Engineering Management is defined with 'SE';
- Technical Management is defined with 'TM'; and
- Equipment Training and Commissioning is defined with 'ETC'

### **TITLE OF DATA**

Identifies the title of the DID referred to in the CDRL.

### **CONTRACT REFERENCE (REFERENCE)**

Identifies the specific paragraph number of the Contract Requirement, Statement of Work, Request for Proposal, Specification, or other applicable document to assist in identifying the work effort associated with the DID.

### **LANGUAGE**

All draft documents must be provided in English or French. 'Bilingual' indicates the data item must be delivered in both the official Canadian English and French languages. Following acceptance of the document by Canada, the Contractor must provide the final document in English and French.

### **DATE OF FIRST SUBMISSION**

Indicates the initial submission date or associated constraint for the first submission of the data item.

### **SUBSEQUENT SUBMISSION DETAILS/FINAL VERSION**

Indicates the date(s) of subsequent submission(s) or associated constraint(s) of the data item. If no subsequent submission or associated constraint are required, this column is marked 'N/A'.

### **FINAL FORMAT**

Indicates the format in which the DID must be provided. Hard copies must be printed at least 600 DPI on double sided 8.5"x11" sheets and must be collated and bound, unless otherwise specified by Canada. PDFs must be provided in a searchable format, e.g. Adobe Acrobat XI or equivalent.

ID #	Title of Data	Reference	Language	Date of First Submission	Subsequent Submission Details/Final Version	Final Format
<b>Project Management</b>						
DID-PM-01	Project Schedule	SOW 2.2	English or French	IAW SOW 2.3.2 (3 business days prior to the contract kick-off meeting)	Updated and submitted bi-weekly once accepted	PDF
DID-PM-02	Progress Report	SOW 2.3.3	English or French	IAW SOW 2.3.3 (10 business days after the contract kick-off meeting)	IAW SOW 2.3.3 (bi-weekly submission)	PDF
<b>System Engineering Management</b>						
DID-SE-01a	Detailed Design Package – 45m <sup>3</sup> /h (Configuration A)	SOW 3.1	English or French	IAW SOW 3.1.2.1 (3 business days prior to the Contract Kick-off Meeting)	NLT 10 business days after receiving CCG comments.	PDF (11x17", 600 DPI)
DID-SE-01b	Detailed Design Package – 90m <sup>3</sup> /h (Configuration B)	SOW 3.1	English or French	IAW SOW 3.1.2.1 (3 business days prior to the Contract Kick-off Meeting)	NLT 10 business days after receiving CCG comments.	PDF (11x17", 600 DPI)
DID-SE-02a	Product Verification Plan – 45m <sup>3</sup> /h (Configuration A)	SOW 3.2	English or French	IAW SOW 3.2.1.1 (15 business days after the approval of DID-SE-01a.	Interim: IAW SOW 3.2.2.2 (NLT 10 business days before the Product Verification Readiness Review meeting) Final: IAW SOW 3.2.2.5 (prior to starting verification activities for configuration A)	PDF
DID-SE-02b	Product Verification Plan – 90m <sup>3</sup> /h (Configuration B)	SOW 3.2	English or French	IAW SOW 3.2.1.1 (15 business days after the approval of DID-SE-01b.	Interim: IAW SOW 3.2.2.2 (NLT 10 business days before the Product Verification Readiness Review meeting) Final: IAW SOW 3.2.2.5 (prior to starting verification activities for configuration B)	PDF
DID-SE-03a	Product Verification Report – 45m <sup>3</sup> /h (Configuration A)	SOW 3.2	English or French	5 business days following verification testing for configuration A	Final: IAW SOW 3.2.3.1 (prior to Final Design Acceptance for configuration A)	PDF

DID-SE-03b	Product Verification Report – 90m <sup>3</sup> /h (Configuration B)	SOW 3.2	English or French	5 business days following verification testing for configuration B	Final: IAW SOW 3.2.3.1 (prior to Final Design Acceptance for configuration B)	PDF
DID-SE-04a	Quality Assurance Report – 45m <sup>3</sup> /h (Configuration A)	SOW 3.4	English or French	3 business days after quality control activities for configuration A	Final: IAW SOW 3.4.1.1 (must be accepted by Canada prior to shipping each Weir Skimmer Package for configuration A)	PDF, 1 Quality Assurance Report for each configuration A Weir Skimmer Package.
DID-SE-04b	Quality Assurance Report – 90m <sup>3</sup> /h (Configuration B)	SOW 3.4	English or French	3 business days after quality control activities for configuration B	Final: IAW SOW 3.4.1.1 (must be accepted by Canada prior to shipping each Weir Skimmer Package for configuration B)	PDF, 1 Quality Assurance Report for each configuration B Weir Skimmer Package.
DID-SE-05a	Lifting Certifications and Rigging Plan - 45m <sup>3</sup> /h (Configuration A)	SOW 3.2	English or French	IAW SOW 3.2.2.2 (NLT 10 business days before the Test Readiness Meeting)	Final: IAW SOW 3.2.3.1 (prior to Final Design Acceptance)	PDF, hard copies of certificates for each configuration A Weir Skimmer Package.
DID-SE-05b	Lifting Certifications and Rigging Plan -90m <sup>3</sup> /h (Configuration B)	SOW 3.2	English or French	IAW SOW 3.2.2.2 (NLT 10 business days before the Test Readiness Meeting)	Final: IAW SOW 3.2.3.1 (prior to Final Design Acceptance)	PDF, hard copies of certificates for each configuration B Weir Skimmer Package.
<b>Equipment Training and Commissioning</b>						
DID-ETC-01	Equipment Training and Familiarization Plan	SOW 4.1	Bilingual (English and French)	20 business days prior to first shipment	5 business days after receiving CCG comments; Final versions must be accepted by Canada before training options can be exercised.	PDF
DID-ETC-02	Equipment Training and Familiarization Materials	SOW 4.1	Bilingual (English and French)	20 business days prior to first shipment	5 business days after receiving CCG comments; Final versions must be accepted by Canada before training options can be exercised.	PDF
DID-ETC-03a	Commissioning Plan - 45m <sup>3</sup> /h (Configuration A)	SOW 4.4	Bilingual (English and French)	IAW SOW 4.4.1 (20 business days prior to first shipment for configuration A)	5 business days after receiving comments	PDF

DID-ETC-03b	Commissioning Plan - 45m <sup>3</sup> /h (Configuration B)	SOW 4.4	Bilingual (English and French)	IAW SOW 4.4.1 (20 business days prior to first shipment for configuration b)	5 business days after receiving comments	PDF
<b>Technical Management</b>						
DID-TM-01a	Operations and Maintenance Manual – 45m <sup>3</sup> /h (Configuration A)	SOW 3.3	Bilingual (English and French)	IAW SOW 3.3.1.1 (20 business days prior to first shipment for configuration A)	IAW SOW 3.3.2.2 (10 business days after receiving comments from Canada)	PDF, hard copies for each configuration A Weir Skimmer Package.
DID-TM-01b	Operations and Maintenance Manual – 90m <sup>3</sup> /h (Configuration B)	SOW 3.3	Bilingual (English and French)	IAW SOW 3.3.1.1 (20 business days prior to first shipment for configuration B)	IAW SOW 3.3.2.2 (10 business days after receiving comments from Canada)	PDF, hard copies for each configuration B Weir Skimmer Package.
DID-TM-02a	Recommended Spare Parts and Tools List - 45m <sup>3</sup> /h (Configuration A)	SOW 3.3	Bilingual (English and French)	IAW SOW 3.3.1.1 (20 business days prior to first shipment for configuration A)	IAW SOW 3.3.2.2 (10 business days after receiving comments from Canada)	PDF
DID-TM-02b	Recommended Spare Parts and Tools List - 90m <sup>3</sup> /h (Configuration B)	SOW 3.3	Bilingual (English and French)	IAW SOW 3.3.1.1 (20 business days prior to first shipment for configuration B)	IAW SOW 3.3.2.2 (10 business days after receiving comments from Canada)	PDF
DID-TM-03a	As-Built Drawing Package - 45m <sup>3</sup> /h (Configuration A)	SOW 3.3	Bilingual (English and French)	IAW SOW 3.3.1.2 (prior to first shipment for configuration A)	IAW SOW 3.3.2.2 (10 business days after receiving comments from Canada)	PDF (11x17", 600 DPI)
DID-TM-03b	As-Built Drawing Package - 90m <sup>3</sup> /h (Configuration B)	SOW 3.3	Bilingual (English and French)	IAW SOW 3.3.1.2 (prior to first shipment for configuration B)	IAW SOW 3.3.2.2 (10 business days after receiving comments from Canada)	PDF (11x17", 600 DPI)
DID-TM-04a	Master Equipment List - 45m <sup>3</sup> /h (Configuration A)	SOW 3.3	Bilingual (English and French)	IAW SOW 3.3.1.1 (20 business days prior to first shipment for configuration A)	IAW SOW 3.3.2.2 (10 business days after receiving comments from Canada)	PDF

DID-TM-04b	Master Equipment List - 90m <sup>3</sup> /h (Configuration B)	SOW 3.3	Bilingual (English and French)	IAW SOW 3.3.1.1 (20 business days prior to first shipment for configuration B)	IAW SOW 3.3.2.2 (10 business days after receiving comments from Canada)	PDF
DID-TM-05a	Illustrated Instructions - 45m <sup>3</sup> /h (Configuration A)	SOW 3.3	Bilingual (English and French)	IAW SOW 3.3.1.1 (20 business days prior to first shipment for configuration A)	IAW SOW 2 (10 business days after receiving comments from Canada)	PDF, hard copies for each configuration A Weir Skimmer Package.
DID-TM-05b	Illustrated Instructions - 90m <sup>3</sup> /h (Configuration B)	SOW 3.3	Bilingual (English and French)	IAW SOW 3.3.1.1 (20 business days prior to first shipment for configuration B)	IAW SOW 3.3.2.2 (10 business days after receiving comments from Canada)	PDF, hard copies for each configuration B Weir Skimmer Package

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## APPENDIX 2 DATA ITEM DESCRIPTIONS

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### Project Management

<b>Title:</b> <b>Project Schedule</b>	<b>Identification Number:</b> <b>DID-PM-01</b>
<b>Description:</b> The Project Schedule defines the timeline on which the Contractor will execute the project. Once accepted, the Contractor must submit an updated Project Schedule every two weeks with the bi-weekly Progress Report.	
<b>Content:</b> At a minimum, the following information must be included:  <ul style="list-style-type: none"><li>a. Contract milestones (e.g., Contract Kick-off Meeting, review meetings, testing, acceptance, shipment, etc.);</li><li>b. All tasks required for the comprehensive delivery of the Weir Skimmer Packages and all associated components (e.g., design, material acquisition, manufacturing, assembly, etc.), as per the Contract;</li><li>c. All tasks required for the comprehensive delivery of all documentation deliverables, as per the Contract.</li></ul> The Contractor must also identify potential schedule risks or slippage.	

<b>Title:</b> <b>Progress Report</b>	<b>Identification Number:</b> <b>DID-PM-02</b>
<b>Description:</b> The Progress Report is a submission prepared by the Contractor to update Canada on Contract progress and the status of project deliverables.	
<b>Content:</b> At a minimum, the following information must be included:  <ul style="list-style-type: none"><li>• Executive summary, including:<ul style="list-style-type: none"><li>○ Progress during the reporting period (contract deliverables, milestones achieved, equipment deliveries);</li><li>○ Changes to the project schedule;</li><li>○ New decisions and action items; and</li><li>○ Identification of risks.</li></ul></li><li>• Appendices including:<ul style="list-style-type: none"><li>○ An updated Project Schedule (DID-PM-01), including schedule forecast to date against the baseline with any slippage identified;</li><li>○ A record of decision log (Contractor format);</li></ul></li></ul>	

<b>Title: Progress Report</b>	<b>Identification Number: DID-PM-02</b>
<ul style="list-style-type: none"> <li>o An action item tracker (Contractor format); and</li> </ul> <p>Current status of contract deliverables (Contractor format).</p>	

<b>System Engineering Management</b>
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<b>Title: Detailed Design Package</b>	<b>Identification Number: DID-SE-01 (a &amp; b)</b>
<p><b>Description:</b> The Detailed Design Package shows the Contractor’s technical solution for the equipment deliverables defined in Section 6. The Detailed Design Package will serve as a basis for the As-Built Drawing Packages (DID-TM-03 a &amp; b).</p>	
<p><b>Content:</b></p> <p>The Detailed Design Package must include the complete detailed design drawings of the technical solution for the Weir Skimmer. The drawings must:</p> <ol style="list-style-type: none"> <li>a. Demonstrate compliance with the technical requirements;</li> <li>b. Show the location of, assembly of, and interconnection between all components;</li> <li>c. Include a comprehensive Bill of Materials;</li> <li>d. Incorporate changes and rectify any issues identified throughout the design phase up to final acceptance; and</li> <li>e. Include system specifications such as capacity, power requirements, engine output etc.</li> </ol> <p>Each drawing must include: drawing title, drawing number, revision number, drawing scale, units of measure, dimensions, legend (as applicable), assembly notes, and the initials of the author.</p> <p><b>Unless otherwise specified by Canada, all final drawings must be sealed and certified by a licensed Professional Engineer.</b></p>	

<b>Title:</b> Product Verification Plan	<b>Identification Number:</b> DID-SE-02 (a & b)
<p><b>Description:</b> The purpose of the Product Verification Plan is to provide complete details of how the contractor will prove that both configurations meet all of the technical requirements in Section 6. The Product Verification Plan defines all verification activities required prior to final design acceptance.</p>	
<p><b>Content:</b>  The Product Verification Plan must include all testing and verification activities that will be conducted to prove that each configuration meets all of the technical requirements listed in Section 6. All product verification activities must be conducted in accordance with the accepted version of the Product Verification Plan. The Product Verification Plan must include, at a minimum:</p> <p><b><i>Proof of technical compliance</i></b>  The product verification plan must explain how each technical requirement will be verified. Requirements must be verified using the requirement verification method specified in the requirement verification column. If no verification method is specified for a given requirement the Contractor must select one of the four requirement verification methods listed below (defined in Section 6.2):</p> <ul style="list-style-type: none"> <li>• Analysis</li> <li>• Demonstration</li> <li>• Inspection</li> <li>• Test</li> </ul> <p><b><u>The Product Verification Plan must fully explain how each technical requirement will be measured using the chosen verification method. For example, if the verification method for a technical requirement is test, the plan must describe how the test will be conducted and how compliance will be measured.</u></b></p>	

<b>Title:</b> Product Verification Report	<b>Identification Number:</b> DID-SE-03 (a & b)
<p><b>Description:</b> The purpose of the Product Verification Report is to document the results of the verification activities that were conducted in accordance with the Product Verification Plan and prove that the final designed product meets all of the technical requirements. The Product Verification Report must be certified by the Contractor as an accurate record of the product verification results.</p>	
<p><b>Content:</b>  The Product Verification Report must be based on DID-SE-02 and include objective evidence proving that each technical requirement has been verified through the activities outlined in DID-SE-02. The report must contain at a minimum the following information:</p> <p><b><i>Verification Results</i></b>  The verification results must include for each verification activity:</p> <ol style="list-style-type: none"> <li>a. Details of the item that was assessed including the configuration of the item at the time of assessment (i.e., drawings, specifications, and other design details that represent the design of the item at the time of assessment);</li> <li>b. Details of the verification procedure; and</li> <li>c. Results of the verification activity that are cross-referenced to the requirement(s) that were verified. Values and measurements associated with the result must be documented.</li> </ol> <p><b><i>Non-Compliance Report</i></b>  A list of all items that did not pass the initial verification including a description of any corrective actions that were taken prior to subsequent verification.</p>	

<b>Title:</b> <b>Product Verification Report</b>	<b>Identification Number:</b> <b>DID-SE-03 (a &amp; b)</b>
<p><b>Design Changes</b> A list of all design changes that were made to address non-compliant verification results.</p> <p>All relevant Certification and Material Data Sheets, or copies thereof, must be appended to the Product Verification Report.</p>	

<b>Title:</b> <b>Quality Assurance Report</b>	<b>Identification Number:</b> <b>DID-SE-04 (a &amp; b)</b>
<p><b>Description:</b> The Quality Assurance Report details the results of the Quality Assurance inspections that occur prior to shipping to demonstrate to Canada that each Weir Skimmer Package has been manufactured in accordance with the design approved during Product Verification. The Quality Assurance Report must be certified by the Contractor as an accurate record of the inspection results.</p>	
<p><b>Content:</b> At a minimum, the Quality Assurance Report must contain the following:</p> <ul style="list-style-type: none"> <li>a. Assurance that the Weir Skimmer Package has been manufactured in accordance with the design approved during product verification;</li> <li>b. Assurance that the Contractor has checked the goods for any damage and reported any repair or replacement procedures during manufacturing; and</li> <li>c. Assurance that all goods in each shipment (for each delivery location) are accounted for.</li> </ul>	

<b>Title:</b> <b>Lifting Certifications and Rigging Plan</b>	<b>Identification Number:</b> <b>DID-SE-05 (a &amp; b)</b>
<p><b>Description:</b> The lifting certifications and rigging plan are required for all equipment that could be lifted via overhead lifts.</p>	
<p><b>Content:</b> A rigging plan and lifting certifications must be provided for each weir skimmer configuration that is designed to be lifted via overhead lifts.</p> <p><b>Rigging Plan:</b> Each rigging plan must:</p> <ul style="list-style-type: none"> <li>a. Be approved by a Classification Society (such as Lloyds or DNV) or certified by a Professional Engineer (P.Eng) registered in a province within Canada; and</li> <li>b. Include a line diagram containing at a minimum the: <ul style="list-style-type: none"> <li>i) Width, height, length, and mass of the load; and</li> <li>ii) Lifting component details, including: hitch type, sling angle, sling leg length, sling rating and details on any other lifting components (as applicable).</li> </ul> </li> </ul> <p><b>Lifting Certifications Report (overhead lift):</b> Lifting components and structural design for all equipment to be lifted must be approved by a Classification Society (such as Lloyds or DNV) or certified by a Professional Engineer (P. Eng) registered in a province within Canada.</p>	

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The report must include:

- a. Official documentation (e.g. a type certificate) proving that the equipment has been approved by the Class Society or P.Eng.
- b. The complete design package including drawings, calculations, and analysis that were required by the Class Society or P.Eng to approve the equipment.
- c. All documents in the report must include the official mark or signature of the Class Society or P.Eng.

## Equipment Training and Commissioning

**Title:** **Equipment Training and Familiarization Plan**

**Identification Number:** **DID-ETC-01**

**Description:** The Equipment Training and Familiarization Plan must describe in detail, the topics that will be delivered as part of the Operational and Technical Maintenance training and familiarization sessions as well as the associated schedule and training materials required.

**Content:**

At a minimum, the following information must be included:

**Objectives**

Identify the equipment training session and performance objectives for participants.

**Training Materials**

Identify all training materials and equipment required to deliver the equipment training sessions.

**Training Schedule & Session Duration**

Provide an itinerary for the equipment training sessions, identifying all key training topics and the time allotted to each topic, including breaks for the participants.

<b>Title:</b> <b>Equipment Training and Familiarization Materials</b>	<b>Identification Number:</b> <b>DID-ETC-02</b>
<b>Description:</b> The Equipment Training and Familiarization Materials must cover, in detail, all information that will be delivered as part of the Operational and Technical Maintenance training and familiarization sessions.	
<b>Content:</b> At a minimum, the following information must be included:  <b>Training Topics</b> At a minimum, the following topics must be addressed: <ul style="list-style-type: none"> <li>a. The purpose and function(s) of each component of the Weir Skimmer Package;</li> <li>b. Any attendant safety hazards and the required personal protective equipment (PPE);</li> <li>c. Demonstration of how to deploy, operate, recover, clean and store all components of the Weir Skimmer Package;</li> <li>d. Safe operational limitations of each Weir Skimmer Package component;</li> <li>e. Pre and post-operational checks;</li> <li>f. Fault location and diagnostic techniques; and</li> <li>g. Preventive and corrective maintenance procedures.</li> </ul>	

<b>Title:</b> <b>Commissioning Plan</b>	<b>Identification Number:</b> <b>DID-ETC-03 (a &amp; b)</b>
<b>Description:</b> The Commissioning plan details the commissioning procedures to follow in order to complete the commissioning of each Weir Skimmer Package.	
<b>Content:</b> Commissioning is a comprehensive and systematic process to verify that all deliverables, once delivered to its final destination, are complete in all respects and performs in its working environment in accordance with Canada's requirements.  At a minimum, the following information must be included: <ul style="list-style-type: none"> <li>a. Verification that all components are present, complete, and damage free;</li> <li>b. Unpacking and initial set up of the Weir Skimmer Package;</li> <li>c. Procedure to render the Weir Skimmer operationally ready;</li> <li>d. Procedure to render the Weir Skimmer ready for storage (short and long term); and</li> <li>e. Procedure to winterize the equipment.</li> </ul> <p>The Commissioning Plan must list the number of personnel required for each procedure as well as any equipment required.</p>	

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## Technical Management

**Title:** Operations and Maintenance Manual

**Identification Number:** DID-TM-01 (a & b)

**Description:** The Operations and Maintenance Manual must include all the necessary information required to safely operate and maintain the Weir Skimmer Package. The document must include colour labelled diagrams, pictograms, and illustrations, as well as sequential instructions where applicable.

**Content:**

At a minimum, the following Operational information must be included:

- a. How to operate the Weir Skimmer Package including all known hazards and safety measures to mitigate risk;
- b. All steps required to render the Weir Skimmer Package fully operational following delivery;
- c. How to install and remove components of the Weir Skimmer Package;
- d. How to troubleshoot the Weir Skimmer Package and perform field repairs;
- e. How to safely clean, store and transport the Weir Skimmer Package, including the identification of cautions and warnings to prevent crew and equipment from damage;
- f. Pre-operational checklist for the Weir Skimmer Package to ensure that the equipment is safe and ready for operation;
- g. Post-operational checklist for the Weir Skimmer Package that includes all cleaning and short or long term storage instructions; and
- h. Original Equipment Manufacturer (OEM) manuals for off-the-shelf equipment. OEM manuals must be provided in both Canadian English and French. Where English or French are not readily available commercially, unilingual versions in either of Canada's official languages will be accepted.

At a minimum, the following Maintenance information must be included:

- a. Recommended preventive maintenance and preventive maintenance intervals in table format. While not an exhaustive list, each maintenance procedure must:
  - i. List the number of personnel and the estimated time to perform the activity;
  - ii. Identify the potential hazards and personal protective equipment (PPE) to use when performing the activity;
  - iii. Identify all parts, consumables, tools or equipment required to perform the maintenance activity;
  - iv. Define the sequential steps to safely perform the activity (including pictograms);
  - v. Identify any subsequent effort required to verify that the activity was properly executed;
  - vi. Identify maintenance dictated by regulatory or warranty requirements (e.g., safety equipment);
  - vii. Recommended corrective maintenance procedures;
  - viii. Procedure required to winterize the equipment (for a Canadian winter); and
  - ix. Identify any maintenance activity that should be conducted by a qualified third party.

<b>Title:</b> Recommended Spare Parts and Tools List	<b>Identification Number:</b> DID-TM-02 ( a & b)
<b>Description:</b> The Recommended Spare Parts and Tools List identifies all items that the Contractor recommends to support ongoing maintenance activities (i.e., preventive and corrective) for each Weir Skimmer Package. Canada will use these recommendations to support the decision to procure spare parts and tools and to facilitate the lifecycle management process of the Weir Skimmer Package.	
<p><b>Content:</b> At a minimum, the following information must be included for each spare part:</p> <ol style="list-style-type: none"> <li>a. Part or Tool Name; (e.g. Air Filter)</li> <li>b. Part or Tool Description: Describe the part or tool.</li> <li>c. Original Equipment Manufacturer (OEM) name and address</li> <li>d. Original Equipment Manufacturer (OEM) part number</li> <li>e. NATO Stock Number (if applicable)</li> <li>f. Supplier name and address</li> <li>g. Quantity recommended to support maintenance over two years of operation</li> <li>h. Quantity recommended for warehousing</li> <li>i. Shelf life (if applicable)</li> <li>j. Estimated price per unit (in Canadian dollars)</li> <li>k. Lead time when ordering</li> <li>l. Warranty (extended, if applicable)</li> <li>m. Recommended storage requirements and conditions (special conditions included) and;</li> <li>n. Preventive maintenance (if applicable)</li> <li>o. Whether or not the part is repairable.</li> </ol> <p><b>Note:</b> The CCG will provide a sample DID to help guide the development of this DID upon request.</p>	

<b>Title:</b> As-Built Drawing Package	<b>Identification Number:</b> DID-TM-03 (a & b)
<b>Description:</b> The As-Built Drawing Package must include all engineering drawings of the technical solution for the equipment deliverables defined by the technical requirements in Section 6 that reflect any revisions or changes that occurred during the manufacturing process. All drawings must detail the key components of each assembly, and their respective interconnection(s).	
<p><b>Content:</b> At a minimum, the following information must be included:</p> <p>The same content that was supplied for the final approved DID-SE-01 Detailed Design Package.</p> <p>Design changes and deviations:</p> <ul style="list-style-type: none"> <li>• All changes from the approved design in DID-SE-01 must be identified as a revision to the detailed design. The corresponding change approval documentation (to confirm the change was approved by Canada) must be included.</li> <li>• All deviations between individual units or between series of units must be captured by noting the serial numbers to which specific details or drawings apply. The deviation approval documentation (to confirm the deviation was approved by Canada) must be included.</li> </ul> <p><b>Unless otherwise specified by Canada, all final drawings must be sealed and certified by a licensed Professional Engineer.</b></p>	

<b>Title: Master Equipment List</b>	<b>Identification Number: DID-TM-04 ( a &amp; b)</b>
<p><b>Description:</b> The Master Equipment List (MEL) is a listing of equipment, and associated data that will be entered into CCG's Maintenance Management System for the purpose of managing maintenance and tracking.</p>	
<p><b>Content:</b>  At a minimum, the following information must be included for all Master Equipment:</p> <ol style="list-style-type: none"> <li>a. Item Name: (E.g. Inverter Gas Generator 3000W)</li> <li>b. Item Description: Characteristics that describe the equipment such as physical and functional specifications, capacity and/or rating (E.g. 13 Km/L)</li> <li>c. Original Equipment Manufacturer (OEM) name and address</li> <li>d. Original Equipment Manufacturer (OEM) part number</li> <li>e. NATO stock number (if applicable)</li> <li>f. Original Equipment Manufacturer (OEM) model name or number: Please specify if this does not match the information provided in "d" from this section</li> <li>g. Supplier catalog number (if applicable)</li> <li>h. Supplier name and address</li> <li>i. Warranty information (i.e., coverage after acceptance by Canada, as per Article XX General conditions 2030)</li> <li>j. Supply type; please indicate if the equipment is commercially available or custom fabricated</li> <li>k. Product link to website (if available): Link to manufacturer product description</li> </ol> <p><b>Note:</b> The CCG will provide a sample DID to help guide the development of this DID upon request.</p>	

<b>Title: Illustrated Instructions</b>	<b>Identification Number: DID-TM-05 (a &amp; b)</b>
<p><b>Description:</b> The Illustrated Instructions must show, through a combination of text and illustrations/pictograms the appropriate deployment, operation and retrieval of the Weir Skimmer. This is meant to be a quick-reference guide.</p>	
<p><b>Content:</b>  At a minimum, the following information must be included:</p> <ol style="list-style-type: none"> <li>a. Deployment of the Weir Skimmer</li> <li>b. Operation of the Weir Skimmer</li> <li>c. Retrieval and repacking of the Weir Skimmer</li> <li>d. Any other relevant information, as accepted by Canada</li> </ol> <p>The Illustrated Instructions must be secured to the inside of the container and be waterproof to withstand a marine environment (for example, laminated pages or specialized paper). The Contractor may propose various waterproofing solutions for consideration by Canada.</p>	