RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

Bid Receiving - PWGSC / Réception des soumissions – TPSGC
11 Laurier St. / 11, rue Laurier
Place du Portage , Phase III
Core 0A1 / Noyau 0A1
Gatineau
Québec
K1A 0S5
Bid Fax: (819) 997-9776

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

Title - Sujet HELICOPTER PROJECT (DFO)	
Solicitation No. - N° de l'invitation F7013-120014/C	**Amendment No. - N° modif.** 003
Client Reference No. - N° de référence du client F7013-120014	**Date** 2013-05-08
GETS Reference No. - N° de référence de SEAG PW-$CAG-003-23670	
File No. - N° de dossier 003cag.F7013-120014	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2013-06-03**	**Time Zone** **Fuseau horaire** Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☐ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: MacNeil, Michael	**Buyer Id - Id de l'acheteur** 003cag
Telephone No. - N° de téléphone (819) 956-0078 ( )	**FAX No. - N° de FAX** (819) 997-0437
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:**	

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

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	**Delivery Offered - Livraison proposée**

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

Telephone No. - N° de téléphone
Facsimile No. - N° de télécopieur

Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)
Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)

Signature **Date**

Issuing Office - Bureau de distribution

Civilian Aircraft Division/Division des Avions Civils
Portage III 8C1 - 50
11 Laurier St./11 reu Laurier
Gatineau
Québec
K1A 0S5

CANADIAN COAST GUARD LIGHT HELICOPTER PROJECT

The purpose of this amendment is to update the Basis of Payment and to add Annexes A and B to the Bid Evaluation Plan at Annex E.

1. At Part 7, sub-section 5.0 Payment

DELETE: Section 5.1 in its entirety.

INSERT: New Section 5.1 as follows

5.1 Basis of Payment

5.1.1 Basis of Payment - Limitation of Expenditure (C0206C, 2013-04-25)

The Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work, as determined in accordance with the Basis of Payment in Annex B, to a limitation of expenditure of $_____ (insert the amount at contract award). Customs duties are included and Applicable Taxes are extra.

5.1.2 Limitation of Price (C6000C, 2011-05-16)

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

5.1.3 Milestone Payments (H3009C, 2010-01-11)

Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract and the payment provisions of the Contract, up to 100 percent of the amount claimed and approved by Canada if:

(a) an accurate and complete claim for payment using form PWGSC-TPSGC 1111, Claim for Milestone Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;

(b) the total amount for all milestone payments paid by Canada does not exceed 100 percent of the total amount to be paid under the Contract;

(c) all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives;

(d) all work associated with the milestone and as applicable any deliverable required have been completed and accepted by Canada.

5.1.4 Task Authorization - Limitation of Expenditures (C0204C, 2011-05-16)

The Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work specified in the authorized Task Authorization (TA), as detailed below, to the limitation of expenditure specified in the authorized TA.

Canada's liability to the Contractor under the authorized TA must not exceed the limitation of expenditure specified in the authorized TA. Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

No increase in the liability of Canada or in the price of the Work specified in the authorized TA resulting from any design changes, modifications or interpretations of the Work will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been authorized, in writing, by the Contracting Authority before their incorporation into the Work.

5.1.5 Standard Pricing Spares Parts List

Material shall be quoted using Contractors most recent Catalogue list price discounted at Government Rate of_____% .

5.1.6 Travel and Living

For authorized Travel and Living reasonably and properly incurred in accordance with the Contractor's Travel Directives, not to exceed Treasury Board Travel Directives .
http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/tbm_113/menu-travel-voyage-eng.asp

2. At Part 7, Section 27.

DELETE: Section 27. in its entirety. (moved to section 5.1)

3. At Annex B Basis of Payment

DELETE: Annex B in its entirety.

INSERT: New Annex B Basis of Payment below

4. At Annex E Bid Evaluation Plan

INSERT:

Annex A Light Helicopter Operational Test Plan (attached), and

Annex B Light Helicopter Logistics Plan for Operational Evaluation Test (attached)

ANNEX B

BASIS OF PAYMENT

Contract Line Item Number	Description	% of bidder's lot price	Amount
001	Agreement by Canada that the Contractor has completed project initiation meeting	1%	TBD
002	Agreement by Canada that the Contractor has completed Preliminary Design Review	1%	TBD
003	Agreement by Canada that the Contractor has completed Critical Design Review	2%	TBD
004	Agreement by Canada for procurement of long-lead items, such as: engines, transmissions, and rotor components	3%	TBD
005	Final Aircraft Acceptance of helicopter # 1 IAW the SOW by Canada at the contractors' facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
006	Delivery Inspection of helicopter # 1 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
007	Final Aircraft Acceptance of helicopter # 2 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
008	Delivery Inspection of helicopter # 2 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD

009	Final Aircraft Acceptance of helicopter # 3 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
010	Delivery Inspection of helicopter # 3 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
011	Final Aircraft Acceptance of helicopter # 4 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
012	Delivery Inspection of helicopter # 4 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
013	Final Aircraft Acceptance of helicopter # 5 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
014	Delivery Inspection of helicopter # 5 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
015	Final Aircraft Acceptance of helicopter # 6 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
016	Delivery Inspection of helicopter # 6 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
017	Final Aircraft Acceptance of helicopter # 7 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD

018	Delivery Inspection of helicopter # 7 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
019	Final Aircraft Acceptance of helicopter # 8 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
020	Delivery Inspection of helicopter # 8 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
021	Final Aircraft Acceptance of helicopter # 9 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
022	Delivery Inspection of helicopter # 9 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
023	Final Aircraft Acceptance of helicopter # 10 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
024	Delivery Inspection of helicopter # 10 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
025	Final Aircraft Acceptance of helicopter # 11 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
026	Delivery Inspection of helicopter # 11 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD

027	Final Aircraft Acceptance of helicopter # 12 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
028	Delivery Inspection of helicopter # 12 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
029	Final Aircraft Acceptance of helicopter # 13 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
030	Delivery Inspection of helicopter # 13 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
031	Final Aircraft Acceptance of helicopter # 14 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
032	Delivery Inspection of helicopter # 14 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
033	Final Aircraft Acceptance of helicopter # 15 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
034	Delivery Inspection of helicopter # 15 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
035	Final Aircraft Acceptance of helicopter # 16 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD

036	Delivery Inspection of helicopter # 16 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
037	Final Aircraft Acceptance of helicopter # 17 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
038	Delivery Inspection of helicopter # 17 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
039	Final Aircraft Acceptance of helicopter # 18 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
040	Delivery Inspection of helicopter # 18 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
041	Final Aircraft Acceptance of helicopter # 19 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
042	Delivery Inspection of helicopter # 19 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
043	Final Aircraft Acceptance of helicopter # 20 IAW the SOW by Canada at the contractor's facility. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD
044	Delivery Inspection of helicopter # 20 IAW the SOW after delivery by the Contractor. All issues identified have been rectified to the satisfaction of Canada.	(90% / # helos) / 2	TBD

045	Final receipt of all deliverables	3%	TBD
	Additional Items		
050	Each additional optional Factory Training for pilots (up to 4 personnel)		
051	Each additional optional Factory Aircraft Maintenance Course (4 personnel)		
052	Hourly rate for Field Service Representative on as required basis for the duration of the Contract. (T & L excluded)		
053	The Contractor shall be paid for reasonable Travel and Living expences that have been pre-approved by the Technical Authority		
054	Not used		
055	For the provision of spares the Contractor agrees to supply parts at the list price less _____ percent .		
056	For the provision of Ground Support Equipment the Contractor shall be paid the bid price for each equipment purchased.		
057	For the provision of additional Tooling and Equipment the contractor shall be paid the bid price for each tooling or equipment purchased.		
058	For Technical Authority approved tasks the Contractor shall be paid the firm price or hourly rate negotiated at tasking approval.		
059	Reserved		
	Optional Item Pricing		
070	The provision of fuel flow control on both collective controls		
071	Paperless cockpit including but not limited to VFR/IFR charts, approach plates, flight manuals and company publications		

072	Inside of all access panels and compartments painted white (engine, main rotor transmission, hydraulics)		
073	Extendable Seat Belts		
074	External hard Point		

Fisheries and Oceans Canada | Pêches et Océans Canada

Coast Guard | Garde côtière

Canadian Coast Guard

ANNEX A – Bid Evaluation Plan: Light Helicopter Operational Evaluation Test Plan CCG Helicopter Project May 1, 2013

Approvals

Deputy Project Manager	A.M. Sekerka	Approved: Date:
Project Manager	R. Graham	Approved: Date:
Director General, Major Projects	R. Wight	Approved: Date:

Table of Contents

1. OVERVIEW

The Light Helicopter Operational Evaluation Test is designed to verify that the proposed aircraft will be capable of performing the key operational tasks of helicopter performance, useful load, shipboard compatibility, and vertical reference flight as outlined in the Baseline Statement of Requirements for the CCG Light Helicopters. Given that the initial analysis of these tasks will take place prior to contract award, manufacturers may provide a Representative Aircraft for this evaluation.

The ground portion of the operational evaluation test, including demonstrations, will be conducted at Transport Canada's facility located at 200 Comet Private, Ottawa, Ontario Canada. It is expected that all in-flight evaluation, with the exception of the Useful Load Test, will be conducted at Gatineau Airport located at1717 Arthur-Fecteau Street Gatineau, Quebec.

It is anticipated that the Operational Evaluation Test will take five (5) consecutive days. The proposed schedule is outlined in Section 3 and identifies the chronology of events that will take place to achieve the objectives identified in the Operational Evaluation Plan. In the interest of time, some tests may run concurrently, however it is also possible that scheduled test days may run longer than anticipated.

The Bidder shall arrive at Transport Canada's facility in Ottawa on the date agreed upon between the Bidder and Public Works and Government Service Canada (PWGSC). The Bidder shall be ready to begin testing at 8am on Day 1 of the test activities. The Bidder shall follow the schedule as outlined in this document. If a change in the schedule is required, this will be arranged through PWGSC in collaboration with the Canadian Coast Guard Technical Authority. All changes shall be agreed upon in writing and endorsed by the Bidder Representative, the CCG Technical Authority and the Fairness Monitor. Canada will make every effort to ensure the continuation of the Operational Test is expedited and completed in a timely fashion.

The Bidder is responsible to provide the fuel and human resources, as well as the equipment outlined in this Operational Evaluation Plan and the Logistics Plan (Annex B of the Bid Evaluation Plan) to conduct all tests.

The operational parameters will be assessed based on a number of scales. The Cooper-Harper Rating Scale will be applied in some cases, while the Bedford Workload Assessment Rating Scale will be used to assess the demands on the pilot during selected operations.

Complete test details are outlined in this Operational Evaluation Test Plan. The associated Light Helicopter Logistics Plan for Operational Evaluation is found as Annex B of the Bid Evaluation Plan.

2. PURPOSE AND KEY DEFINITIONS

The Operational Evaluation is designed to demonstrate:

1. Helicopter Performance
2. Useful load
3. Shipboard Compatibility
4. Vertical Reference Flight

2.1 Operational Evaluation

An Operational Evaluation in the context of this Operational Evaluation Test Plan is defined as the test and analysis of a specific item or system, insofar as practicable under service operating conditions, in order to determine if further evaluation is warranted. The Operational Evaluation Test for the CCG Light helicopter will assess the bidder's proposed aircraft to determine compliance with selected criteria in the CCG Light Helicopter Baseline Statement of Requirements.

2.2 Representative Aircraft

For the purpose of this Operational Evaluation, the Representative Aircraft of the proposed solution for the CCG "Configuration A" helicopter must be the same make, model and variant as the aircraft being proposed in the Bidder's RFP submission.

The Representative Aircraft shall be equipped with the appropriate emergency floatation gear (complete with external life rafts), dual flight controls and blade folding kits for the purpose of these tests.

All kits and equipment under development to satisfy the requirements of CCG "Configuration A" must be identified in a document to be provided to the delegated CCG authority at the time of the Operational Evaluation. As specified in the CCG Light Helicopter Baseline Requirements document, all necessary kits and equipment to satisfy the requirements of CCG "Configuration A" shall be completed and have received Transport Canada approval by the time of the first aircraft delivery.

For the purpose of demonstrating a Representative Aircraft, where any kits (including STCs), equipment, and items requiring Transport Canada approval must be developed for the final aircraft, the bidder shall provide all documentation (including relevant drawings) and empty weight center of gravity (C of G) calculations demonstrating that the weight and balance corresponds to the proposed aircraft solution submitted as part of the bid submission.

2.2.1 "Configuration A" Aircraft

Canadian Coast Guard Light Helicopter 2.2.1 "Configuration A" Aircraft	
The CCG Helicopter "Configuration A" is defined as the normal operating arrangement and helicopter construction necessary to fulfill the CCG mission requirements. The CCG Helicopter "Configuration A" includes all equipment and articles, as specified by the mandatory requirements within the Baseline Statement of Requirements for the CCG light helicopter, with the exception of the following items:	
A.	**Litter Kit.**
B.	**Auxiliary Fuel Tanks.**
C.	**Co-Pilot Flight Controls**
D.	**Main Rotor and Tail Rotor Tie Downs**
E.	**All Auxiliary Equipment not Carried On board the Aircraft.**
Reference Document	
The Baseline Statement of Requirements for the CCG Light Helicopters is found in "ANNEX B" of the Statement of Work for Light Helicopters.	

2.2.2 Bidder Representative

For the purpose of the Operational Evaluation Tests for Light Helicopters, the Bidder Representative is defined as the individual designated by the Bidder as the authorized representative responsible to witness and acknowledge, in writing, agreement to all Operational Evaluation Tests and respond to Canada on matters relating to the Operational Evaluation Test Activities.

3. SCHEDULE

It is anticipated that the Operational Evaluation Test will take five (5) consecutive days. The following schedule has been prepared to identify the chronology of events for conducting the Operational Evaluation Testing.

Note: All participants will be responsible to provide their own meals.

3.1 Day 1 Activities

Location: Transport Canada's facility located at 200 Comet Private, Ottawa, Ontario	
0800-1200	Bidder Personnel Briefing (introductions, evaluation program overview, safety brief etc.)
1200-1300	Lunch
1300-1600	Bidder provides ground school to Transport Canada Evaluation Pilots

3.2 Day 2 Activities

Location: Transport Canada's facility located at 200 Comet Private, Ottawa, Ontario	
0800-0900	Bidder and Evaluation Team in-briefing (brief on day's planned activities)
0900-1000	Bidder prepares aircraft for Familiarization Flight (FAM Flight)
1000-1130	Familiarization Flight 1 (includes aircraft prep for next FAM flight)
1130-1230	Lunch
1230-1400	Familiarization Flight 2 (includes aircraft prep for next FAM flight)
1400-1530	Familiarization Flight 3(includes aircraft prep for next FAM flight)

3.3 Day 3 Activities

Location: Transport Canada's facility located at 200 Comet Private, Ottawa, Ontario	
0800-1000	Bidder and Evaluation Team in-briefing (brief on day's planned activities)
1015-1200	Aircraft Shipboard Compatibility Evaluation
1200-1300	Lunch
1300-1430	Aircraft weighing and ballast weighing
1430-1600 (Activity 1)	Useful Load Evaluation (flight to be conducted from Ottawa Airport)
1430-1600 (Activity 2)	Helicopter Performance Evaluation

3.4 Day 4 Activities

Location: Gatineau Airport,1717 Arthur-Fecteau Street Gatineau, Quebec	
0800 1000 (Activity 1)	Bidder and Evaluation Team in-briefing (brief on day's planned activities) and Aircraft and flight crew prep/ briefing for departure to test airport
0800 1000 (Activity 2)	Equipment and ground crew prep and travel to Gatineau airport
1000 – 1100	Reposition aircraft to Gatineau airport
1100 -1200	Prepare aircraft for Vertical Reference evaluation
1200 -1300	Lunch
1300 – 1730	Vertical Reference Evaluation (3 pilots to each conduct 3 x 1.5 hr. circuits, this includes pilot changes and refuelling stops)
1730 – 1830	Reposition back to Ottawa

3.5 Day 5 Activities

Location: Transport Canada's facility located at 200 Comet Private, Ottawa, Ontario
Day 5 will be used in the event that there is a requirement to move activities due to delays. For example, poor weather conditions.

4. ASSUMPTIONS AND CONDITIONS

4.1 Roles and Responsibilities

A minimum flight test crew comprising of a Bidder's Test Pilot, a Test Director, and a Transport Canada Evaluation Pilot shall be carried for all tests and evaluations.

A team of three (3) qualified Transport Canada Evaluation Pilots will conduct the Operational Evaluation under the supervision of the Transport Canada Chief Pilot, Rotorcraft Operations and in coordination with the Bidder Test Pilot.

The Test Director will be a third-party expert in flight test and will ensure that the flight test process is conducted fairly and is verified from outside the Canada project team.

The Transport Canada Evaluation Pilot will be qualified, current and proficient in precision vertical reference flight.

The crew members and evaluation team shall have the following assigned roles and responsibilities:

4.1.1 The Bidder's Test Pilot

- Shall be onboard and retain authority as Pilot in Command (PIC) during all test flights. The PIC shall be responsible for the safe execution of the mission and has the final authority over the safety of flight, positive aircraft control, and adherence to regulations and limitations.

4.1.2 The Transport Canada Evaluation Pilot(s)

- Responsible for executing the test points and providing responses to the Cooper-Harper and Bedford evaluations.

4.1.3 Test Director (Third Party)

- Ensures all tests are conducted in accordance with the documented CCG Light Helicopter Operational Evaluation Test Plan.
- Adjusts the test - point sequence and coordinates the crew to achieve the test objectives in the optimum manner.
- Cues the crew when to conduct each test point, and initiates an abort of a test point, when necessary.
- Determines whether a test point has been successfully completed, or needs to be repeated.
- Leads the Evaluation Pilot through the Cooper-Harper and Bedford Evaluation processes.
- Collects hand-recorded data and operates the aircraft data acquisition system, if installed, for **all** Operational Evaluation Testing. (Flight and Ground Testing)
- Operates video camera.
- Leads post-test debrief meetings

- Witnesses and endorses test methodology to ensure comprehension and confirm agreement to the requirements specified in the test plan.
- Witnesses and acknowledges that each test has been completed.

4.1.4 CCG Technical Authority

- Provides a briefing of the activities and expectations for the operational test team prior to commencing any testing. This briefing will include all CCG evaluation test participants and observers.
- Observes and verifies testing to ensure compliance with CCG Light Helicopter Baseline Statement of Requirements
- Witnesses and endorses test methodology to ensure comprehension and confirm agreement to the requirements specified in the test plan.
- Witnesses and acknowledges that each test has been completed.
- Participates as an observer in the post - flight debrief meetings.
- Participates in a debrief meeting with the Test Director and the Fairness Monitor at the end of each day.

4.1.5 Bidder Representative

- Witnesses and endorses test methodology to ensure comprehension and confirm agreement to the requirements specified in the test plan.
- Witnesses and acknowledges that the test has been completed.

4.1.6 Transport Canada Chief Pilot Rotorcraft Operations

- Briefs all test participants prior to any and all testing of the Bidder's aircraft.
- Supervises the overall safety of the Transport Canada Evaluation Pilots during flight operations.
- Witnesses and endorses test methodology to ensure comprehension and confirm agreement to the requirements specified in the Test Plan with respect to safety issues and compliance with aviation regulations and practices..
- Witnesses and acknowledges that the test has been completed.
- Witnesses and verifies ballasting of the aircraft.
- Participates in the post - flight debrief meetings.

4.1.7 PWGSC Contracting Authority

- Ensures that the Operational Evaluation Tests are carried out with openness, transparency and integrity, and in an impartial manner.
- Primary point of contact from Canada's Team for the Bidder Representative.
- Primary point of contact from Canada's Team for all contract related concerns pertaining to the operational evaluation testing.
- Witnesses and endorses test methodology to ensure comprehension and confirm agreement to the requirements specified in the test plan.
- Witnesses and acknowledges that the test has been completed.
- Participates as an observer in the post - flight debrief meetings.

– Participates as an observer in a debrief meeting with the Test Director and CCG Technical Authority at the end of each day.

4.1.8 Fairness Monitor

– Ensures that all testing is conducted in a consistent and impartial manner.
– Witnesses and acknowledges that the test has been completed.
– Participates as an observer in the post - flight debrief meetings.
– Participates as an observer in a debrief meeting with the Test Director and CCG Technical Authority at the end of each day.

4.2 Familiarization and Training

The Bidder shall provide training for the Transport Canada Evaluation Pilots. Study material and training documentation shall be provided by the Bidder to Canada at the time of bid submission. A maximum of three hours of ground school will be conducted by the bidder's team as part of Day 1 Activities of the Operational Evaluation Testing to provide an overview of the helicopter and its salient systems.

Prior to the start of the Operational Evaluation Testing, the bidders shall provide a familiarization flight for each Transport Canada Evaluation Pilot (maximum of three pilots) at a minimum duration of 1.0 flight hours per pilot. These familiarization flights will cover:

- Pre-flight inspection
- Pre-start, start and post-start checks
- Pre-takeoff checks
- Hover IGE and OGE
- Turns in the hover (up to minimum of 45°/sec)
- Normal traffic patterns/circuits
- Acceleration from hover IGE to cruise
- Climb at takeoff power
- Cruise
- Flight to VNE
- Single engine procedures –
  – Engine failures in hover
  – OEI landings
- Descent in autorotation
- Use of AFCS modes
- Use of autopilot
- Shut down procedures

4.3 Mission and Safety Briefings

Prior to the scheduled commencement of any testing, the CCG Technical Authority will provide a briefing of the activities that will take place during the Operational Evaluation Testing. This meeting will include all evaluation test participants and observers.

Prior to each flight test sortie of the Bidder's aircraft, the Transport Canada Chief Pilot and the Bidder's Test Pilot will conduct a mission and safety briefing for TC Evaluation Pilots using the test cards contained in this document and the Safety Briefing Form found in APPENDIX C will be completed prior to each test mission. The subject test plan shall be endorsed by the Canadian Coast Guard, Transport Canada, Public Works and Government Services Canada and the Bidder. ***Testing will not proceed until such time that all parties witness and endorse the test methodology to ensure comprehension and confirm agreement to the requirements specified in the Test Plan***. If issues are raised regarding the test methodology or for any other reasons, they will be addressed under the guidance of PWGSC.

The Bidder's pilot shall conduct an aircraft and personal equipment safety briefing detailing such items as: normal and emergency exit operation, evacuation, helmet usage, life jackets, secure and brace positions, survival & first aid kit provisions, fire extinguisher and crash axe locations, miscellaneous safety equipment, ELT operation, and standard signals. The briefing will also highlight pertinent operating limitations pertinent to the proposed test.

A post flight debriefing will be conducted immediately upon the conclusion of each test session in order to confirm that all test points were completed, and to identify any lessons learned or safety issues which might affect subsequent flights. The Test Director, Evaluation Test Pilot, CCG Technical Authority and Fairness Monitor shall attend the post flight debriefing.

To ensure subsequent testing is unbiased, test results will remain confidential. The Test Director shall compile all test results and debrief the CCG Technical Authority at the end of each day. A final Operational Evaluation Test Report shall be provided marked "Confidential" to the CCG Project Technical Authority at the end of the Bidder's Aircraft Evaluation.

4.4 Weather and Operating Requirements

All testing shall be conducted in Visual Meteorological Conditions (VMC) under Visual Flight Rules (VFR) applicable to helicopters. Evaluations will be carried out up to a maximum wind speed of 15 knots with a maximum gust spread of 10 knots.

4.5 Ground Handling

Evaluation and demonstration requiring ground handling of the aircraft shall be the responsibility of the Bidder.

All equipment and tools required for handling of the aircraft shall be supplied by the Bidder. This includes items such as a blade folding kit, cradles, ground handling wheels and associated ground handling equipment, etc.

Canada will observe the Bidder personnel performing the ground handling or ground movement of the aircraft during any part of the operational evaluation and demonstration.

4.6 Aircraft Preparation

In preparation for operational testing, all necessary test components including weights and configurations shall be witnessed and endorsed in writing by authorized representatives from CCG, Public Works and Government Services Canada, Transport Canada, the Fairness Monitor, the Bidder Representative and Flight Test Crew.

4.6.1 Aircraft Weighing

Transport Canada will provide calibrated aircraft weigh-scales to enable the Bidder to weigh the helicopter. The purpose of weighing the helicopter is to determine the empty weight and center of gravity and to confirm accuracy of the Bidder's calculated Empty Weight and Balance Report prior to the commencement of testing. The aircraft will be weighed in accordance with the maintenance instructions provided by the bidder and will be conducted by the Bidder's maintenance personnel. Transport Canada shall also provide suitable scales for weighing crew and ballast prior to flight.

4.6.2 Equipment List

If the equipment necessary to comply with the specified CCG Helicopter Configuration A is not presented on the representative test helicopter (for example FM radio, ISAT system, etc.), an equipment list shall be provided by the Bidder showing the weight and location where the missing equipment would be installed. "The Bidder shall provide a Weight and Balance Report that represents the empty weight and C of G for the CCG "Configuration A" aircraft. The test aircraft shall be ballasted to adjust the Center of Gravity (C of G) to conform to that of the calculated empty weight C of G for the "Configuration A" aircraft.

4.6.3 Ballast Bags

For the purpose of testing, ballast bags shall be added to the test aircraft to achieve "Configuration A" empty weight C of G. Ballast for internal loading will be in the form of

marked and weighed ballast bags provided by Transport Canada. Ballast bags shall be numbered for control purposes and packed to prevent spillage.

The Bidder shall be responsible for the loading and security of any ballast used on their aircraft. This activity will be witnessed by the Test Director and Canada. Any floor loading limits shall be respected.

4.7 Aircraft Documentation

As part of the Bid Submission, the Bidder shall provide the Aircraft Flight Manual and other key documentation listed below to prepare for testing in a separate package marked **"Operational Evaluation Test Plan Documentation"**.

4.7.1 Engine Power Available Charts

The bidder shall supply engine power available charts for the engines as installed in the helicopter. The range of the charts shall cover from sea level, ISA standard, to 10,000' ISA +30°C and all engine ratings (twin and single).

4.7.2 Hover Performance Charts

The bidder shall supply the following hover performance information for the helicopter in the configuration(s) required for the tests.

4.7.3 Flight Manual Performance Charts

The Flight Manual (FM) charts for IGE and OGE hover performance will be used to determine the maximum weight capability at the stated altitudes. The bidder will supply FM charts for hover capability.

4.7.4 Hover C_P vs. C_T Charts

The bidder shall provide non-dimensional charts of Coefficient of Thrust (C_T) (i.e. weight) vs. Coefficient of Power (C_P) for hover performance in the configuration required for the tests. The bidder shall include charts for a single IGE hover. Hover OGE charts shall be provided for 'hovering up' from an IGE hover to hover OGE (i.e. hover height above ground no more than 1.5 times rotor diameter), as well as that obtained by 'flying in' to an OGE hover from forward flight at heights over 2 rotor diameters above ground.

4.8 Test Site Preparation

The area where vertical reference evaluation is to be conducted shall be surveyed by the Flight Test Crew for flight hazards. The target for vertical reference work shall be marked out under the supervision of the Test Director, using staked yellow 'caution' tape or other suitable method provided by CCG.

4.9 Ground Support

Under the direction of the Test Director, a member of the Test Director's team shall be stationed to the side of the marked hover-test area for the Vertical Reference evaluations. The observer shall be equipped with a radio communication link to the helicopter. In addition to its important safety function, this link will also be used for one of the secondary workload tasks. Transport Canada will provide the necessary radio equipment and frequencies.

4.10 Data Collection and Witnessing

During Operational Testing of the Representative Aircraft, data will be gathered by various means including the following:

- Video-recording and/or digital camera photography of internal (cockpit) and outside views, by fixed and/or helmet mounted cameras.
- Audio recording of the intercom channel and the aircraft radios.
- Electronic data entry by the Test Director of the Cooper-Harper survey responses.

CCG will provide the camera(s) and equipment, on Day 1 of the evaluations for installation by the Bidder under the supervision of the Test Director. The Test Director will identify where the temporary mounts for the cameras that will be installed. Areas of interest include the flight controls and instrument panels.

All tests described in the Operational Evaluation Test Plan, and resulting data shall be witnessed and endorsed by Canada and Bidder representatives to ensure that all authorized representatives understand the requirements specified in the test plan, including methodology. Upon completion of each test the designated authorized representatives will witness and acknowledge that the test has concluded.

4.10.1 Flight Log

The Test Director shall maintain a flight log. The Test Director will record details of the flight including, as a minimum: subject pilot name; test run number; start and end flight time; pilot verbal comments; reported temperature and winds; and any other information considered pertinent by the Test Director. See "APPENDIX F" for the flight log.

4.11 Clothing and Safety Equipment

Transport Canada Evaluation Pilots shall conduct all test flights wearing typical CCG mission attire including pilot immersion suit, life vest and flight helmet. The Bidder is responsible for ensuring compatibility between CCG flight helmets and the aircraft. The Flight Helmets require an adapter cable with a U-61/U plug on one end and a U-174/U plug on the other end.

Transport Canada Evaluation Pilots shall conduct all test flights wearing both lap and shoulder restraints to be provided as basic aircraft equipment.

5. OPERATIONAL TEST DESCRIPTION

Operational Testing shall be conducted in accordance with this Operational Evaluation Test Plan. The criteria for each of the four (4) operational tests are identified below.

5.1 Helicopter Performance

5.1.1 Critical Operational Issue

Requirement 7.1.3 of the CCG Baseline Statement of Requirements for Light Helicopters states that the helicopter shall have a hover out of ground effect (HOGE) capability at its maximum certified take-off weight (MCTOW), take-off power (TOP), and in international standard atmosphere (ISA) conditions of at least 5000 feet (1524m) pressure altitude (PA).

5.1.2 Evaluation Criteria - Test

The Helicopter Performance evaluated by using the data provided in the Aircraft Flight Manual.

5.1.2.1 Test Procedures and Documentation of Test Results

The hover performance will be evaluated using analytical methods, as shown in Figure 1.

- CONTINUED ON NEXT PAGE -

Canadian Coast Guard Light Helicopter
3.1 Hover Performance Analysis

Test Objectives (one objective per row)	
1.	Baseline Statement of Requirements 3.1: Analysis of 5,000 ft Pressure Altitude OGE hover at ISA +5˚C at limit takeoff power.

Canadian Coast Guard Light Helicopter Hover Performance Evaluation Procedure		
	Test Condition / Procedure	**Observations / Data**
1.	Determine maximum weight for 5,000 ft Pressure Altitude OGE hover at ISA +5˚C at limit takeoff power using AFM data. If aircraft is capable of an OGE hover at MTOGW in excess of 5,000 ft Pressure Altitude, calculate maximum ISA OGE hover altitude at MTOGW using AFM data.	AFM MTOGW for specified OGE hover: _____ OR AFM maximum OGE hover altitude at MTOGW, ISA: _____ ft
2.	Using standard atmospheric ratios for the relevant conditions, determine power required for OGE hover with “hover up” and “fly in” data using Ct vs. Cp charts and methods / formulae from US Naval test Pilot School Flight Test Manual (FTM) 106.	Calculated OGE power required for specified OGE hover at ‘fly in’ and ‘hover up’ conditions. Show method and work on separate sheet: _____
3.	Determine power available for minimum specification engine. Compare power required from Step 2 above to power available from minimum specification engine, and determine capability to hover at stated conditions.	Engine power available exceeds calculated power required: Yes [ ] No [ ]
4.	Compare AFM and FTM 106 OGE hover performance data (steps 1 and 2 above).	AFM data corresponds with FTM 106 calculations: Yes [ ] No [ ]

Figure 1 - Hover performance analysis

5.2 Useful Load

5.2.1 Critical Operational Issue

Requirement 7.2.1 of the CCG Baseline Statement of Requirements for Light Helicopters states that the helicopter in Flight “Configuration A”, as defined in Section 5, shall be capable of carrying a minimum useful load of 1000 lbs (453.5 kg), plus the necessary fuel for at least 2 hrs plus 20 minutes VFR reserve, at a cruise speed of at least 120 knots (222.2 km/hr).

5.2.2 Evaluation Criteria - Test

Following the evaluation test described in 5.1.2, the Bidder shall demonstrate, through flight, weight and balance documentation, and calculations, that the proposed aircraft of the same make, model and variant including all equipment and kits as offered in response to the RFP to satisfy CCG “Configuration A”, shall retain a useful load of 1000 lbs (453.5 kg) plus the necessary fuel for at least 2 hours and 20 minutes VFR reserve at a cruise speed of at least 120 knots (222.2 km/hr).

5.2.2.1 Test Procedures and Documentation of Test Results

The test procedures and results documentation for the useful load evaluation are shown in Figure 2 and 3 below.

- CONTINUED ON NEXT PAGE -

Canadian Coast Guard Light Helicopter 3.2 Useful Load		
Pilot In Command:	Test Director:	Call Sign:
Evaluation Pilot:	Helo Type:	Registration:
Mission Log		
Date:	Flight #:	
DEPARTURE	**ARRIVAL**	
Departure airfield:	Destination airfield:	
Power-on time:	Power-off time:	Flight Time:
Take-off time:	Land time:	Air Time:
Take-off fuel:	Land fuel:	Fuel Used:
Take-off weight:	Land weight:	Empty Weight:
Take-off CG:	Land CG:	Empty CG:

Test Objectives (one objective per row)	
1.	Baseline Statement of Requirements 7.2.1: Demonstration of minimum endurance of 2 hours and 20 minutes with a useful load of 1,000 lbs (453.5 kg) at a minimum TAS of 120 Kt.

Test Prerequisites	
A.	Aircraft to be refuelled to maximum capacity.
B.	Crew to be weighed.
C.	Additional equipment to be weighed.
D.	Aircraft to be ballasted to 1,000 pounds useful load (less weight of crew and equipment).
E.	Bidders to provide fuel correction factors for any missing external equipment items.

Figure 2 - Useful load

Canadian Coast Guard Light Helicopter Useful Load and Endurance Evaluation Procedure		
	Test Condition / Procedure	**Observations / Data**
1.	Start camera recording.	Note Pressure Altitude (29.92): _____ft. Note OAT:_____˚C
2.	Aircraft started, brought to flight condition.	Note takeoff fuel quantity: _____
3.	Aircraft hovered at IGE height.	Note IGE hover power indications:_____
4.	Accelerate to Vy.	
5.	Aircraft climbed at Vy to 1,000' AGL.	Record Vy_____KIAS
6.	Aircraft accelerates to 120 KIAS minimum or Maximum Continuous Power (MCP) limit.	
7.	Start timing.	
8.	Maintain cruise at 120 KIAS or above at MCP for 30 minutes minimum, heading away from departure airport.	Note: cruise altitude: _____ Altimeter setting: _____ Cruise airspeed: _____KIAS OAT_____˚C
9.	Turn towards departure airport, maintaining previous cruise airspeed.	
10.	Return to departure airport, decelerate to a hover, and hover taxi to dispersal.	
11.	Aircraft shut down using flight manual procedures.	Note indicated fuel quantity: _____
12.	Stop timing.	Note elapsed time: _____H_____MM
13.	Stop camera recording.	
14.	Aircraft refueled to full tanks.	Note fuel quantity added: _____
15.	Determine still air range from extrapolation of fuel used vs. flight time data adjusted for any fuel burn compensation factors identified in test objectives above.	Calculated endurance: _____H_____MM
16.	Compare IGE hover power-required for ambient conditions with AFM data.	Note calculated IGE power required from AFM: _____

Figure 3 - Useful load

5.3 Shipboard Compatibility

5.3.1 Critical Operational Issue #1:

Requirement 7.4.6 of the CCG Baseline Statement of Requirements for Light Helicopters states that the helicopter shall be furnished with a main rotor blade folding kit, which does not require the use of tools.

Requirement 7.2.5 of the CCG Baseline Statement of Requirements for Light Helicopters states that the helicopter shall be capable of folding the main rotor (MR) blades, without removing the blades.

5.3.2 Evaluation Criteria - Test #1

Observe a maximum of two (2) persons from the Bidder's team fold the blades without the use of tools, utilizing manufacturer supplied cradles where necessary, and without removing the blades.

5.3.3 Evaluation Criteria - Test #2

Conduct measurements to ensure the folded blades do not extend beyond a span of 130 inches to allow 15.5 inches on either side of the outer most tip of the main rotor blade. (See Figure 3 - Example of stowage envelope).

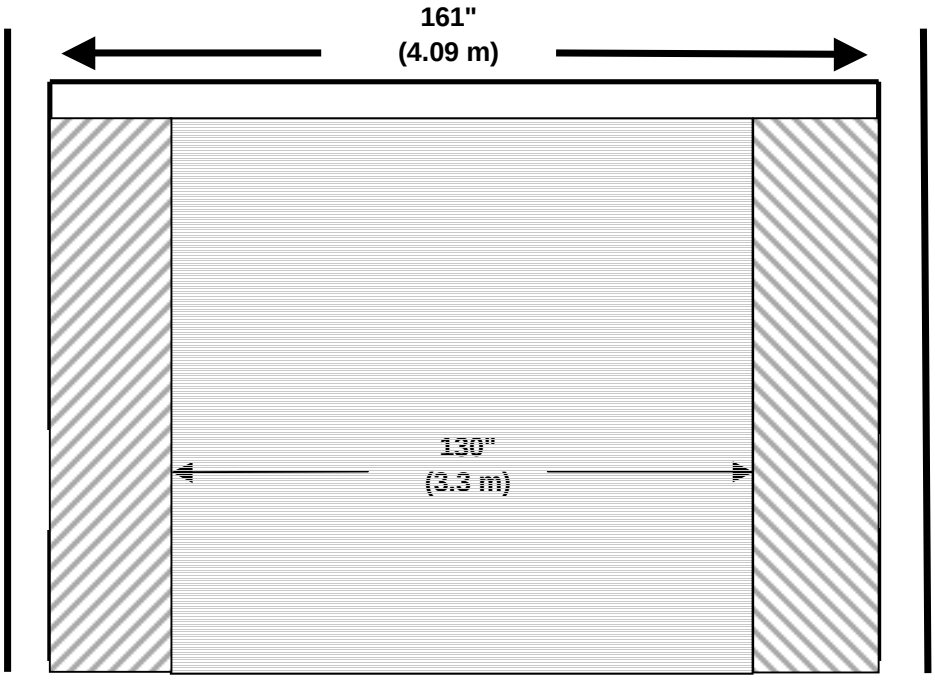


Figure 3 - Example of stowage envelope

5.3.4 Critical Operational Issue #2

Requirement 7.2.13 of the CCG Baseline Requirements for Light Helicopters states that the maximum overall length of the helicopter shall not exceed 57 ft. (17.37m), the overall helicopter height shall not exceed 13ft. 10 inches (4.21m) with ground handling equipment installed and deployed, and the overall helicopter width, with main rotor blades in the folded position with cradles installed, shall not exceed 10ft 10 inches (3.3 m) with all operational equipment installed per CCG helicopter Configuration A.

5.3.5 Evaluation Criteria - Test #1

Upon completion of the test of Evaluation Criteria #5.3.1, the aircraft, with blades folded, must fit in a representative ship hangar. The test will evaluate that the overall dimensions of the helicopter with the blades folded, ground-handling equipment installed and deployed, and blade cradles installed (where necessary) does not exceed 17.37 meters in length, 4.21 meters in height and 3.3 meters in width.

5.3.6 Test Procedures and Documentation of Test Results

The test procedures and results documentation for the shipboard compatibility evaluation are shown in Figure 4 below.

- CONTINUED ON NEXT PAGE -

Canadian Coast Guard Light Helicopter 3.3 Shipboard Compatibility Evaluation		
Bidder's Observer:	Test Director:	Date:
TC Observer:	Helo Type:	Registration:

Test Objectives (one objective per row)	
1.	Baseline Statement of Requirements 7.4.6: Demonstration of main rotor folding by two persons without the use of tools.
2.	Baseline Statement of Requirements 7.2.5: Demonstration of main rotor folding without removal of blades.
3.	Baseline Statement of Requirements 7.2.13: Demonstration of helicopter dimensions with blades folded.
Test Prerequisites	
A.	Aircraft to be prepared for rotor blade folding and towing in accordance with manufacturer's procedures. If there is any (minimum or maximum) time required between shutdown and blade fold or movement to the hangar, the bidder is to notify Canada prior to the test.
B	The bidder will provide ground handling equipment representative of that to be used to move the helicopter into and out of the hangar.
C.	The hangar shall be inspected by the Test Director, TC observer, and manufacturer's representative for safety and adequate clearance prior to the commencement of towing. A suitable hand fire extinguisher shall be easily accessible throughout the ground handling operations.
D.	Towing may only be performed by suitably trained and qualified personnel.
E.	For ground handling operations, any necessary marshallers (provided by the Bidder) shall be stationed on either side of the helicopter with a clear view of the nose and tail
F.	Video recording of the folding and unfolding of the rotor blade is required.

Figure 4 – Shipboard compatibility evaluation

Canadian Coast Guard Light Helicopter Shipboard Compatibility Evaluation Procedure		
	Test Condition / Procedure	**Observations / Data**
1.	Position and shutdown the helicopter outside the hangar mockup at Transport Canada.	
2.	Prepare helicopter for blade folding and towing.	
3.	Start camera recordings.	
4.	Instruct Bidder personnel to commence blade-folding operation (limit: 2 operators) and **Commence timing**.	No tools may be utilized for the blade folding procedure.
5.	**Stop timing** when blades are secured in supplied cradles and bidder's team indicates process is complete (except for any paperwork necessary for maintenance tracking purposes).	Record elapsed time for blade folding: _____H_____MM
6.	When bidders team indicates that they are ready to commence, clear the handlers to attach the ground handling equipment.	Start timing when go-ahead is given to aircraft handlers.
7.	Reposition helicopter into hangar and lower to ground. Remove ground-handling equipment. Stop timing when the helicopter is positioned in the hangar mockup (or as completely as is possible) and is lowered off any ground handling equipment.	Record elapsed time for repositioning maneuver: _____H_____MM
8.	Attach rotor blade cradles. In the presence of the bidder's representative, the Test Director and TC observer record and cross-check the dimensions of the helicopter with blades folded and ground handling equipment attached.	Overall Length: _____m (Max. 17.37m) Overall Width: _____m (Max. 3.30m) Overall Height: _____m (Max. 4.21m)
9.	In the presence of the bidder's representative, the Test Director and TC observer record and cross-check the dimensions of the helicopter with blades folded and ground handling equipment attached.	
10.	Stop camera recording.	
11.	Repeat steps 1-10 of this test card for blade unfolding.	Record elapsed time for blade unfolding: _____H_____MM

Figure 5 – Shipboard compatibility evaluation procedure

5.4 Vertical Reference Flight

5.4.1 Critical Operational Issue

Requirement 8.4 of the CCG Baseline Requirements for Light Helicopters states that the helicopter shall be capable of conducting Vertical Reference Operations (VRO) with all doors on and closed.

5.4.2 Evaluation Criteria

The Cooper Harper Rating Scale for handling qualities and the Bedford Workload Assessment Rating Scale found in Appendices A and B shall be used to assess flight test performance as identified in the Evaluation Criteria below.

The purpose of the Vertical Reference Test is to assess, using vertical reference flight techniques to achieve a score of 3 or lower on the Cooper Harper and the Bedford Scale, that the Representative Aircraft being offered can be effectively flown while conducting typical CCG external load missions.

The aircraft shall be ballasted to place the center of gravity to represent single pilot operations. The weight of the aircraft and load combination shall not exceed 95% of its MCTOW.

Tests 1 through 5 shall be conducted consecutively by three (3) individual Transport Canada Evaluation Pilots. Each pilot will perform a minimum of three (3) circuits to complete all test sequences. The first two circuits shall be utilized as familiarization flights, and the evaluation will take place on the third circuit.

5.4.3 Evaluation Criteria - Test #1

The CCG Pilot will complete the required checklist items for pre-start, start, run up and systems checks prior to flight. This will be performed in the seat assigned for Vertical Reference flight.

- The pilot shall evaluate that all essential switches and controls are readily accessible and workable from the seat designated as the Vertical Reference seat.

5.4.4 Evaluation Criteria - Test #2

The Transport Canada Evaluation Pilot shall hover the aircraft over a fixed point at a height of approximately five (5) feet.

- The pilot shall maintain aircraft position over the ground within a +/-2 foot lateral and vertical tolerance.

– The pilot shall transition to vertical reference flight while maintaining aircraft position within a 5 foot lateral and 2 foot vertical tolerance over the fixed point.

5.4.5 Evaluation Criteria - Test #3

Test A: The Transport Canada Evaluation Pilot shall hover the aircraft with a 50 foot long line attached to a test weight of 300 lbs.

– The pilot shall maintain position of the load over a fixed point (target) on the ground at a height of 5 feet (+/-2 feet) and within 5 feet laterally of the target for 30 seconds.

Test B: The Transport Canada Evaluation Pilot, while in the hover, shall perform two (2) secondary tasks.

– The pilot shall receive and respond to a radio transmission initiated by the ground observer.

– The pilot shall acknowledge and respond to a simulated aircraft malfunction introduced by the Test Director.

Test C: The Transport Canada Evaluation Pilot shall conduct a departure, circuit and arrival with the 50'-foot line attached to a test weight of 300 lbs.

– Upon completion of the circuit and arrival, the pilot shall transition the load to a stable hover without ground contact and hold it over a fixed point (target) on the ground at a height of 5 feet (+/-2 feet) and within 5 feet laterally of the target for 30 seconds

– During the circuit, and while in the hover, the pilot shall **simulate** activation of the primary and secondary release for the aircraft cargo hook, and the primary release for the remote hook.

5.4.6 Evaluation Criteria - Test #4

Test A: The Transport Canada Evaluation Pilot shall hover the aircraft with a 125- foot long line attached to a test weight of 300 lbs.

– The TC Evaluation Pilot shall maintain position of the load over a fixed point (target) on the ground at a height of 5 feet (+/-2 feet) and within 5 feet laterally of the target for 30 seconds.

Test B: The TC Evaluation Pilot shall conduct a departure, circuit and arrival with the 125- foot line and test weight attached.

– Upon the completion of the circuit and arrival, the pilot shall transition the load to a stable hover without ground contact and hold it over a fixed point (target) on the ground at a height of 5 feet (+/-2 feet) and within 5 feet laterally of the target for 30 seconds.

Test Procedures and Documentation of Test Results

The test procedures and results documentation for the Vertical Reference Flight Evaluation are shown in 6 below.

- CONTINUED ON NEXT PAGE -

Canadian Coast Guard Light Helicopter
3.4 Vertical Reference Flight Evaluation

Pilot In Command:	Test Director:	Call Sign:
Evaluation Pilot:	Helo Type:	Registration:
Mission Log		
Date:	Flight #:	
DEPARTURE	**ARRIVAL**	
Departure airfield:	Destination airfield:	
Power-on time:	Power-off time:	Flight Time:
Take-off time:	Land time:	Air Time:
Take-off fuel:	Land fuel:	Fuel Used:
Take-off weight:	Land weight:	Empty Weight:
Take-off CG:	Land CG:	Empty CG:

Test Objectives (one objective per row)	
1.	Baseline Statement of Requirements 8.4: Demonstration of Vertical Reference Operations (VRO) with all doors on and closed.
2.	Baseline Statement of Requirements 8.4: Demonstration of Vertical Reference Operations (VRO) with all doors on and closed.and evaluation of handling in vertical reference situations using Cooper-Harper methodology.
3.	Baseline Statement of Requirements 8.4: Demonstration of Vertical Reference Operations (VRO) with all doors on and closed and evaluation of workload in vertical reference situations (with secondary tasks) using Bedford methodology.
Test Prerequisites	
A.	The helicopter is to be fuelled for approximately 1.5 hours of flight and loaded to represent single-pilot operating centre of gravity (CG) and combined aircraft and load weight (300 lbs) not to exceed 95% of MCTOW.
B.	The test team will ensure that the hover area and flight-path will not endanger personnel on the ground if the load should be jettisoned or falls off inadvertently. A ground safety observer shall be stationed to the side of the marked hover-test area and equipped with a radio communication link to the helicopter. In addition to its important safety function, this link will also be used for one of the secondary workload tasks.
C.	The CCG pilot shall occupy the seat designated as the vertical reference seat.
D.	The Vertical Reference Flight Evaluation shall be conducted consecutively by three (3) individual CCG flight test pilots. Each pilot will perform a minimum of three (3) circuits to complete all test sequences. The first two circuits shall be utilized as familiarization flights, and the evaluation will take place on the third circuit.

Figure 6 - Vertical reference flight evaluation

Canadian Coast Guard Light Helicopter Vertical Reference Flight Evaluation Procedure		
	Test Condition / Procedure	**Observations / Data**
1.	Start camera recording.	Note Pressure Altitude (29.92): _____ft. Note OAT: _____˚C
2.	TC Evaluation Pilot starts helicopter, performs all normal checks.	Note takeoff fuel quantity: _____
3.	Evaluate that all essential switches and controls are readily accessible and workable from the seat designated as the vertical reference seat.	Record any unsatisfactory control or display locations, or any visibility restrictions, on a separate sheet and attach to this report.
4.	TC Evaluation pilot positions helicopter to start vertical reference tests.	Note IGE hover power indications:_____
5.	Maintain helicopter position over the ground at a 5 ft' landing gear height within ±5ft' horizontally, and ±2ft' vertically over the target for 30 seconds.	
6.	TC Evaluation pilot transfers control to company pilot.	
7.	Test Director walks TC Evaluation Pilot through Cooper-Harper questionnaire relating to maintaining load position and then returns control to TC Evaluation Pilot.	Note Cooper-Harper rating for load position maintenance task: _____
8.	Evaluation pilot transfers control to company pilot.	
9.	Test Director walks TC Evaluation Pilot through Cooper-Harper questionnaire relating to maintaining hover position and then returns control to evaluation pilot.	Note Cooper-Harper rating for OGE hover position maintenance task: _____
10.	Descend and land to attach 50 ft' cable and load.	
11.	TC Evaluation Pilot climbs helicopter to 50 ft' AGL.	Record load cell reading (if installed) when load clears the ground:_____lbs
12.	Note fuel quantity and power required to hover OGE, engine parameters.	Note Pressure Altitude (29.92): _____ft. Note OAT:_____˚C Note fuel quantity: _____ Note OGE hover power indications: _____

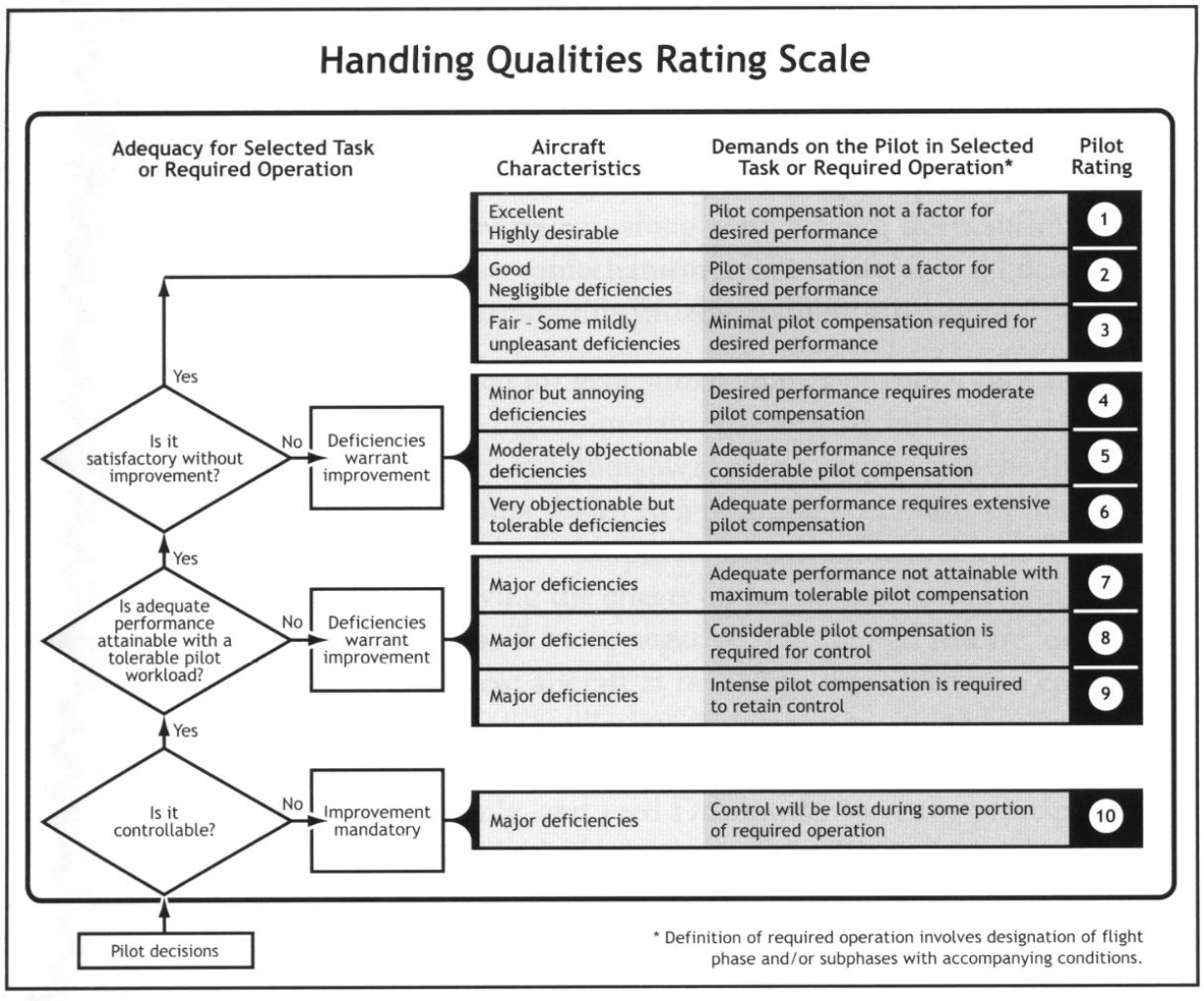
Canadian Coast Guard Light Helicopter Vertical Reference Flight Evaluation Procedure		
	Test Condition / Procedure	**Observations / Data**
13.	Hover with load at a height of 5 feet (within +/- 2 feet) above the ground while staying in parameters of a 5 ft target marked on the ground. Maintain for 30 seconds.	Ground observer will video tape load position for accuracy and stability
14.	Evaluation pilot transfers control to company pilot.	
15.	Test Director walks TC Evaluation Pilot through Cooper-Harper questionnaire relating to maintaining load position and then returns control to evaluation pilot.	Note Cooper-Harper rating for load position maintenance task: _____
16.	Apply secondary task # 1 – initiate and respond to radio contact with ground observer.	
17.	Apply secondary task #2 – simulated minor malfunction that requires simulated emergency release of load from 50 ft' hover.	Accessibility of emergency release control switch Sat ( ) Unsat( )
18.	Evaluation pilot transfers control to company pilot.	
19.	Test Director walks TC Evaluation Pilot through Cooper-Harper questionnaire relating to landing task and Bedford evaluation relating to radio task workload. Control is then returned to the evaluation pilot.	Note Cooper-Harper rating for landing task: _____ Note Bedford rating for radio task: _____
20.	Lift to sufficient height to ensure load is clear of ground. Accelerate to forward flight and climb to circuit height. Perform circuit and decelerate to hover over designated area.	
21.	**Simulate** use of primary and secondary cargo releases, and remote hook release.	
22.	With load in ground contact, **simulate** jettison load and land helicopter.	
23.	Attach load using 125 ft line.	
24.	Hover aircraft high enough to ensure load is clear of ground, accelerate to forward flight and complete circuit to arrive in hover so that load does not touch the ground.	
25.	Hover with load at a height of 5 feet (within +/- 2 feet) above the ground while staying in parameters of a 5 ft target marked on the	

Canadian Coast Guard Light Helicopter Vertical Reference Flight Evaluation Procedure		
	Test Condition / Procedure	**Observations / Data**
	ground. Maintain for 30 seconds.	
26.	Transition to forward flight. TC Evaluation Pilot transfers control to company pilot.	
27.	Test Director walks TC Evaluation Pilot through Cooper-Harper questionnaire relating to landing task and Bedford evaluation relating to radio task workload. Control is then returned to the evaluation pilot.	Note Cooper-Harper rating for load position maintenance task: _____
28.	Return for landing and place load on ground.	
29	Land helicopter and disconnect long line.	
30.	Stop camera recording.	
31.	Compare OGE hover power-required for ambient conditions with AFM data.	Note calculated OGE power required from AFM: _____

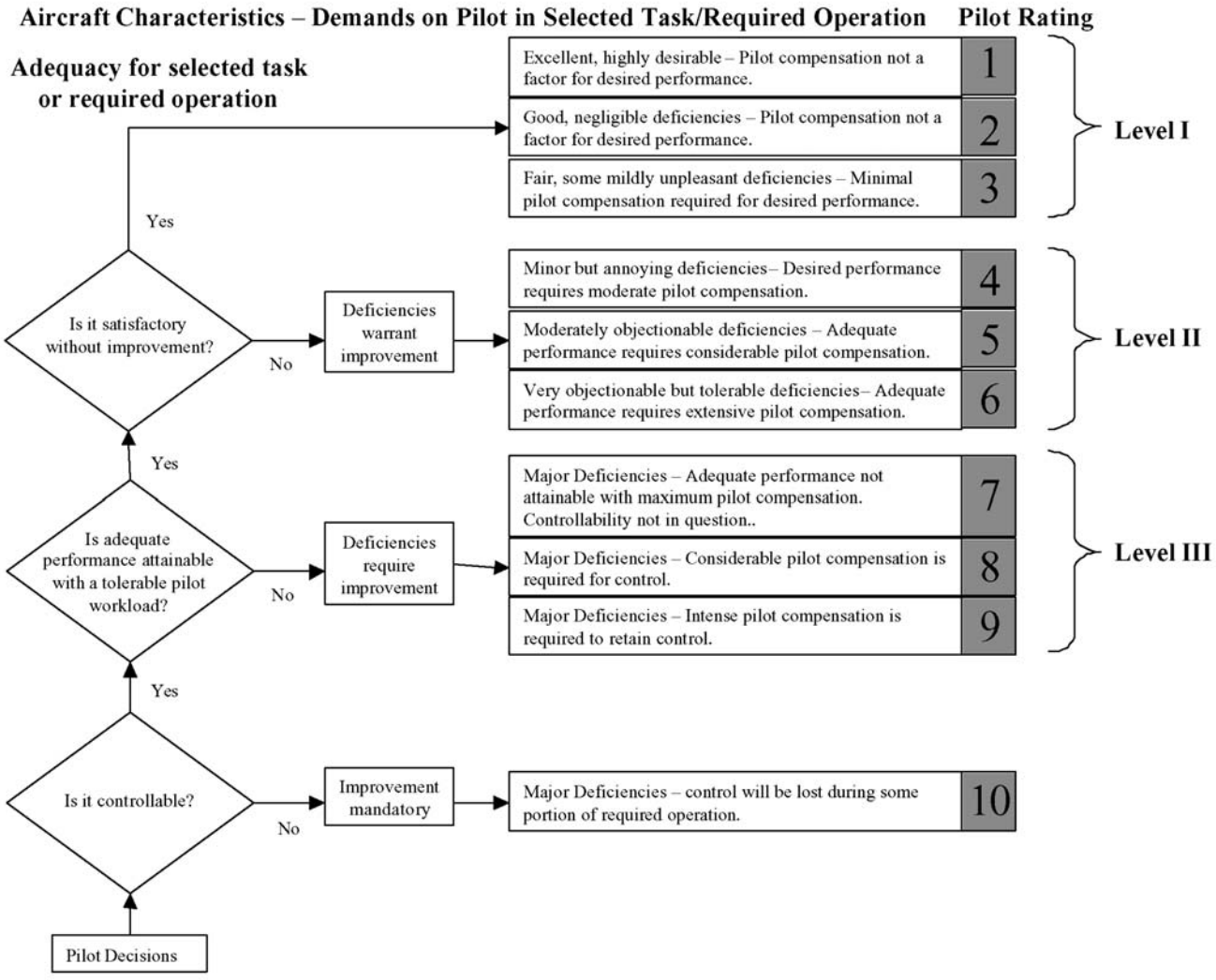
Figure 7 – Vertical reference evaluation procedure

- END OF TEST-

APPENDIX A - Cooper Harper Rating Scale



APPENDIX B - Bedford Workload Assessment Rating Scale



APPENDIX C – Mandatory Pre-Mission Safety Briefing

MV-SRB-001
Short Form SRB Checklist

Version 4.0 Sep 1, 2008

Short-Form Safety and Mission Briefing

TEST OBJECTIVE(S)	MISSION DATE/SEQUENCE:	AIRCRAFT:
A.		
B.		
C.		
D.		
E.		

MAJOR HAZARDS (e.g. CFIT, Overstress, Injury, Damage, etc.)	
A.	Operations near edge of height-velocity envelope
B.	Midair collision due to distractions from task loading
C.	Loss of control during external load testing
D.	Personal Injury on ground due to external load operations
E.	

HAZARD MITIGATION	
A.	Proper task differentiation: Company pilot (PIC)'s priority is to remain safe, not to collect data.
B.	Test Director and Company Safety Pilot relieve test pilot of data-collection and test conduct functions, allowing full concentration on safe conduct of test point.
C.	Assigned ground safety personnel to be in radio contact with helicopter for all slung-load operations.
D.	Build-up approach enforced.
E.	

RESIDUAL RISK (circle applicable combination)				
FAILURE CONDITION / FAILURE PROBABILITY	MINOR	MAJOR	HAZARDOUS	CATASTROPHIC
Probable	LOW	MEDIUM	HIGH	HIGH
Improbable-Remote	LOW	LOW	MEDIUM	HIGH
Extremely Remote	LOW	LOW	LOW	MEDIUM
Extremely Improbable	LOW	LOW	LOW	LOW

APPENDIX D – Pre-Test Acknowledgement Forms

D-1.OPERATIONAL TEST – HELICOPTER PERFORMANCE

The under signed hereby acknowledge and agrees that the following pre-test activities have been completed to their satisfaction:

- Operational Test Briefing ☐
- Bidder Supplies Weight and Balance Report for "Configuration A" Aircraft ☐
- Aircraft Weighed ☐
- Calculate and record empty weight and empty weight center of gravity ☐
- Compare the Bidder supplied representative aircraft weight and balance report with the calculations from the step above ☐
- Review the Bidder supplied sample weight and balance report and equipment list for the Bidder proposed CCG "Configuration A" aircraft ☐

CCG Technical Authority: Printed Name _____ Signature:_____

Bidder Representative: Printed Name _____ Signature:_____

Transport Canada Chief Pilot: Printed Name _____ Signature:_____

Contract Authority PWGSC: Printed Name _____ Signature:_____

Test Director: Printed Name _____ Signature:_____

Bidder Pilot in Command: Printed Name _____ Signature:_____

Transport Canada Evaluation Pilot: Printed Name _____ Signature:_____

Fairness Monitor: Printed Name _____ Signature:_____

APPENDIX D – Pre-Test Acknowledgement Forms

D-2.OPERATIONAL TEST – USEFUL LOAD

The under signed hereby acknowledge and agrees that the following pre-test activities have been completed to their satisfaction:

- Operational Test Briefing ☐
- Pre-flight Safety Briefing ☐
- Aircraft Pre-flight Check ☐
- Ballast bags weighed ☐
- Aircraft has been fueled to maximum capacity ☐
- Aircraft has been ballasted to 1000 lbs useful load (less weight of crew and equipment) ☐

CCG Technical Authority: Printed Name _____ Signature:_____

Bidder Representative: Printed Name _____ Signature:_____

Transport Canada Chief Pilot: Printed Name _____ Signature:_____

Contract Authority PWGSC: Printed Name _____ Signature:_____

Test Director: Printed Name _____ Signature:_____

Bidder Pilot in Command: Printed Name _____ Signature:_____

Transport Canada Evaluation Pilot: Printed Name _____ Signature:_____

Fairness Monitor: Printed Name _____ Signature:_____

APPENDIX D – Pre-Flight Acknowledgement Forms

D-3.OPERATIONAL TEST - SHIPBOARD COMPATIBILITY EVALUATION

The under signed hereby acknowledge and agrees that the following pre-test activities have been completed to their satisfaction:

- Operational Test Briefing (test card briefing) ☐
- Safety Briefing ☐
- Aircraft has been prepared for blade folding procedure ☐
- Aircraft ground handling equipment has been installed ☐
- Mock-up aircraft hangar has been satisfactorily prepared ☐
- Aircraft ground crew have been briefed on their expected duties ☐
- Camera crew has been briefed in regards to required filming ☐

CCG Technical Authority: Printed Name _____ Signature:_____

Bidder Representative: Printed Name _____ Signature:_____

Transport Canada Chief Pilot: Printed Name _____ Signature:_____

Contract Authority PWGSC: Printed Name _____ Signature:_____

Test Director: Printed Name _____ Signature:_____

Bidder Pilot in Command: Printed Name _____ Signature:_____

Transport Canada Evaluation Pilot: Printed Name _____ Signature:_____

Fairness Monitor: Printed Name _____ Signature:_____

APPENDIX D - Pre-Flight Acknowledgement Forms

D-4.OPERATIONAL TEST - VERTICAL REFERENCE FLIGHT EVALUATION

The under signed hereby acknowledge and agrees that the following pre-test activities have been completed to their satisfaction:

- Operational Test Briefing ☐
- Pre-flight Safety Briefing ☐
- Aircraft Pre-flight Check ☐
- Aircraft has been fueled to approximately 1.5 hours of fuel endurance ☐
- Aircraft is configured for vertical reference operations ☐
- Aircraft has been ballasted to accurately represent single pilot operation from the designated vertical reference pilot seat ☐
- Aircraft external cargo system functionality has been verified ☐
- All sling equipment has been inspected and deemed serviceable ☐

CCG Technical Authority: Printed Name _____ Signature:_____

Bidder Representative: Printed Name _____ Signature:_____

Transport Canada Chief Pilot: Printed Name _____ Signature:_____

Contract Authority PWGSC: Printed Name _____ Signature:_____

Test Director: Printed Name _____ Signature:_____

Bidder Pilot in Command: Printed Name _____ Signature:_____

Transport Canada Evaluation Pilot: Printed Name _____ Signature:_____

Fairness Monitor: Printed Name _____ Signature:_____

APPENDIX E- Post-Flight Acknowledgement Form

E-1.POST FLIGHT ACKNOWLEDGEMENT

CHECK THE APPROPRIATE BLOCK (□) TO IDENTIFY THE APPLICABLE TEST

1) Helicopter Performance □
2) Useful Load □
3) Shipboard Compatibility □
4) Vertical Reference □

I, the undersigned, have observed the Operational Evaluation Test identified above and agree that it has been conducted in accordance with the Technical Specification. I also agree with the test methodology that has been used in the conduct of the test and that the test has been completed in accordance to the Operational Evaluation Test Plan for Light Helicopters in an open, transparent and fair manner.

CCG Technical Authority: Printed Name _____ Signature:_____

Bidder Representative: Printed Name _____ Signature:_____

Transport Canada Chief Pilot: Printed Name _____ Signature:_____

Contract Authority PWGSC: Printed Name _____ Signature:_____

Test Director: Printed Name _____ Signature:_____

Bidder Pilot in Command: Printed Name _____ Signature:_____

Transport Canada Evaluation Pilot: Printed Name _____ Signature:_____

Transport Canada Evaluation Pilot: Printed Name _____ Signature:_____

Transport Canada Evaluation Pilot: Printed Name _____ Signature:_____

Fairness Monitor: Printed Name _____ Signature:_____

APPENDIX F – Operational Evaluation Test Log – Light Helicopters

FLIGHT LOG DATE: _____ TEST #: _____

EVALUATION PILOT: _____

BIDDER TEST PILOT: _____

TEST DIRECTOR: _____

Item No.	Flight Number	Start Time	Stop Time	Altimeter/ Wx/Temp	Comments

Fisheries and Oceans Canada | Pêches et Océans Canada

Coast Guard | Garde côtière

Canadian Coast Guard

ANNEX B – Bid Evaluation Plan - Light Helicopter Logistics Plan for Operation Evaluation Test CCG Helicopter Project May 1, 2013

Approvals

Deputy Project Manager	A.M. Sekerka	Approved: Date:
Project Manager	R. Graham	Approved: Date:
Director General, Major Projects	R. Wight	Approved: Date:

Table of Contents

1. PURPOSE

The purpose of this Logistics Plan is to provide details pertaining to the requirement for logistics support necessary to conduct the Operational Evaluation Testing of proposed solutions for the CCG Light Helicopter. This Logistics Plan relates directly to the Operational Evaluation Test Plan, which outlines the detailed test objectives for performing the key operational tasks of helicopter performance, useful load, shipboard compatibility and vertical reference flight as outlined in the Baseline Statement of Requirements for the CCG Light Helicopters. All operational testing will be conducted as described in the CCG Light Helicopter Operational Evaluation Test Plan. Testing will be recorded, verified and witnessed by all Authorized representatives from Canadian Coast Guard, Public Works and Government Services Canada, Transport Canada and the Bidder.

As outlined in the Operational Evaluation Test Plan the key operational evaluations are scheduled as follows:

1. Helicopter Performance (Day 3)

2. Useful Load (Day 3)

3. Shipboard Compatibility (Day 3)

4. Vertical Reference Flight (Day 4)

2. OVERVIEW

The primary elements of the evaluation, including ground testing and pre-test evaluations, will be conducted at Transport Canada's facility located at 200 Comet Private, Ottawa, Ontario, Canada. The in-flight tests of the operational evaluation, with the exception of the useful load test, will be conducted at Gatineau Airport, 1717 Arthur-Fecteau Street, Gatineau, Quebec, Canada. Any material resources required for in-flight testing will be provided by Transport Canada.

3. ROLES AND RESPONSIBILITIES

As outlined in the Operational Evaluation Test Plan, a minimum flight test crew comprising of a Bidder Supplied Test Pilot, a Test Director, and a Transport Canada Evaluation Pilot shall be carried for all tests and evaluations.

A team of three (3) qualified Transport Canada Evaluation Pilots will conduct the Operational Evaluation under the supervision of the Transport Canada Chief Pilot, Rotorcraft Operations and in coordination with the Bidder Test Pilot as the Pilot in Command.

The Test Director will be a third-party expert in flight test and will ensure that the flight test process is conducted impartially, in accordance with the documented CCG Light helicopter Operational Evaluation Test Plan and established industry practices.

The Transport Canada Evaluation Pilot will be qualified, current and proficient in precision vertical reference flight.

The crewmembers and evaluation team shall have the following assigned roles and responsibilities:

3.1 The Bidder's Test Pilot

– Shall be onboard and retain authority as Pilot in Command (PIC) during all test flights. The PIC shall be responsible for the safe execution of the mission and has the final authority over the safety of flight, positive aircraft control, and adherence to regulations and limitations.

3.2 The Transport Canada Evaluation Pilot(s)

– Responsible for executing the test points and providing responses to the Cooper-Harper and Bedford evaluations.

3.3 Test Director (Third Party)

– Ensures all tests are conducted in accordance with the documented CCG Light Helicopter Operational Evaluation Test Plan.
– Adjusts the test - point sequence and coordinates the crew to achieve the test objectives in the optimum manner.
– Cues the crew when to conduct each test point, and initiates an abort of a test point, if necessary
– Determines whether a test point has been successfully completed, or needs to be repeated.
– Leads the Evaluation Pilot through the Cooper-Harper and Bedford Evaluation processes
– Collects hand-recorded data and operates the aircraft data acquisition system, when installed, for **all** Operational Evaluation Testing (Flight and Ground Testing)
– Operates a video camera.
– Leads post-test debrief meetings
– Witnesses and endorses test methodology to ensure comprehension and confirm agreement to the requirements specified in the test plan.
– Witnesses and acknowledges that each test has been completed.

3.4 CCG Technical Authority

- Provides a briefing of the activities and expectations for the operational test team prior to commencing any testing. This briefing will include all CCG evaluation test participants and observers.
- Observes and verifies testing to ensure compliance with CCG Light Helicopter Baseline Statement of Requirements. Witnesses and endorses test methodology to ensure comprehension and confirm agreement to the requirements specified in the test plan.
- Witnesses and acknowledges that each test has been completed in accordance with the test plan.
- Participates as an observer in the post - flight de-brief meetings.
- Participates in a de-brief meeting with the Test Director and the Fairness Monitor at the end of each day.

3.5 Bidder Representative

- Witnesses and endorses test methodology to ensure comprehension and confirm agreement to the requirements specified in the test plan.
- Witnesses and acknowledges that the test has been completed.

3.6 Transport Canada Chief Pilot Rotorcraft Operations:

- Briefs all test participants prior to any and all testing of the Bidder's aircraft.
- Supervises the overall safety of the Transport Canada Evaluation Pilots during flight operations.
- Witnesses and endorses test methodology to ensure comprehension and confirm agreement to the requirements specified in the Test Plan with respect to safety issues and compliance with aviation regulations and practices.
- Witnesses and acknowledges that the test has been completed.
- Witnesses and verifies ballasting of the aircraft.
- Participates in the post - flight de-brief meetings.

3.7 PWGSC Contracting Authority:

- Ensures that the Operational Evaluation Tests are carried out with openness, transparency and integrity, and in an impartial manner.
- Primary point of contact from Canada's Team for the Bidder Representative.
- Primary point of contact from Canada's Team for all contract related concerns related to the operational evaluation testing.
- Witnesses and endorses test methodology to ensure comprehension and confirm agreement to the requirements specified in the test plan.
- Witnesses and acknowledges that the test has been completed.
- Participates as an observer in the post - flight de-brief meetings.
- Participates as an observer in a de-brief meeting with the Test Director and CCG Technical Authority at the end of each day.

3.8 Fairness Monitor:

- Ensures that all testing is conducted in a consistent and impartial manner.
- Witnesses and acknowledges that the test has been completed.
- Participates as an observer in the post - flight de-brief meetings.
- Participates as an observer in a de-brief meeting with the Test Director and CCG Technical Authority at the end of each day.

4. REQUIREMENTS FOR MEETINGS

4.1 Introductory Meeting

An introductory meeting will be held at Transport Canada prior to commencing Operational Evaluation Testing. This meeting will be used to introduce participants, ensure that roles and responsibilities are clear and discuss the general goals and expectations of the Operational Testing.

Transport Canada Facilities Management group will conduct a Safety and Security Briefing for all evaluation participants and observers. This briefing is required prior to commencing the Operational Evaluation Tests for each Bidder.

4.2 Pre-Test Meetings

Prior to each day's test activities, the CCG Technical Authority will provide a briefing of the activities and expectations for the operational evaluation testing for that day. This meeting will include all CCG evaluation test participants and CCG observers.

Prior to any and all testing of the Bidder's aircraft, the Chief Pilot shall brief all test participants. The Pre-Test Acknowledgement Form for each test shall be endorsed by Canadian Coast Guard (CCG), Transport Canada (TC), Public Works and Government Services Canada (PWGSC), the Fairness Monitor, Test Crew and the Bidder.

4.3 Meeting Minutes and Decision Record

All meetings, briefings and debriefings will be minuted and records of decisions will be documented. PWGSC will be responsible to provide personnel for minute and decision record writing.

5. BIDDER REQUIREMENTS

5.1 General

In preparation for the Operational Evaluation, the Bidder must present the Representative Aircraft, Test Pilot, Maintenance Engineer and Ground Handlers for testing, as described in the Operational Test Plan.

The Bidder shall be responsible for preparing the aircraft for all tests. This pertains to every interaction with the aircraft, including aircraft loading. Where there is a requirement to weigh the aircraft, the Bidder will be responsible to supply all tools for the weighing of their helicopter with the exception of the aircraft scales. If there is a requirement to lift the helicopter to place it on blocks for the purpose of weighing, the Bidder will also be responsible to supply lifting tools for their aircraft types.

During Flight and Ground testing, the Bidder-supplied Test Pilot, as the Pilot in Command, has final authority over the conduct and maneuvering of the aircraft.

5.1.1 Bidder Representative

For the purpose of the Operational Evaluation Tests for Light Helicopters, the Bidder Representative is defined as the individual designated by the Bidder as the authorized on-site representative responsible to witness and acknowledge in writing, agreement to all Operational Evaluation Tests.

5.1.2 Bidder and Bidder Aircraft Accommodation

For the duration of the Operational Evaluation Testing, the Bidder shall be responsible to provide their own meeting rooms and any overnight accommodations (eg. hangar and security) for their aircraft.

5.1.3 Costs

The Bidder is responsible for all costs associated with testing including hangar space for the stowage and the security of their aircraft. The Bidder will be responsible to obtain their own boardroom space for any internal meetings. Canada will not be responsible for any costs associated with testing, planned or otherwise.

5.1.4 Representative Aircraft

For the purpose of this Operational Evaluation, the Representative Aircraft of the proposed solution for the CCG Configuration A helicopter must be the same make, model and variant as the aircraft being proposed in the RFP submission.

The Representative Aircraft shall be equipped with appropriate emergency floatation gear, (complete with external life rafts), dual flight controls and blade folding kits for the purpose of these tests.

All kits and equipment under development to satisfy the requirements of CCG “Configuration A” must be identified in a document to be provided to the delegated CCG authority at the time of the Operational Evaluation. As specified in the CCG Light Helicopter Baseline Requirements document, all necessary kits and equipment to satisfy the requirements of CCG “Configuration A” shall be completed and have received Transport Canada approval by the time of the first aircraft delivery.

Where any kits (including STCs), equipment, and items requiring Transport Canada approval are required to be developed for the final aircraft, for the purpose of demonstrating a Representative Aircraft, the bidder shall provide all documentation (including relevant drawings) and associated calculations demonstrating that the weight shall correspond to the proposed aircraft solution submitted as part of the bid submission.

5.2 Ground Handling

Evaluation and demonstration requiring ground handling of the aircraft shall be the responsibility of the Bidder.

All equipment and tools required for handling of the aircraft shall be supplied by the Bidder. This includes items such as any blade folding kit, cradles, ground handling wheels and associated ground handling equipment, etc. that may be required.

Canada will observe the Bidder personnel performing the ground handling or ground movement of the aircraft during any part of the operational evaluation and demonstration.

5.3 Familiarization and Training

The Bidder shall provide training for the Transport Canada Evaluation Pilots. Study material and training documentation shall be provided by the Bidder to Canada at the time of bid submission. A maximum of three hours of ground school will be conducted by the bidder's team as part of Day 1 Activities of the Operational Evaluation Testing to provide an overview of the helicopter and its salient systems.

Prior to the start of the Operational Evaluation Testing, the bidders shall provide a familiarization flight for each Transport Canada Evaluation Pilot (maximum of three pilots) at a minimum duration of 1.0 flight hour per pilot.

5.4 Aircraft Documentation

As part of the Bid Submission, the Bidder shall provide the Aircraft Flight Manual and other key documentation listed below to prepare for testing in a separate package marked **"Operational Evaluation Test Plan Documentation"**.

5.4.1 Engine Power Available Charts

The bidder shall supply engine power available charts for the engines as installed in the helicopter. The range of the charts shall cover from sea level, ISA standard, to 10,000' ISA +30°C and all engine ratings (twin and single).

5.4.2 Hover Performance Charts

The bidder shall supply the following hover performance information for the helicopter in the configuration(s) required for the tests.

5.4.3 Flight Manual Performance Charts

The Flight Manual (FM) charts for IGE and OGE hover performance will be used to determine the maximum weight capability at the stated altitudes .The bidder will supply FM charts for hover capability.

5.4.4 Hover C_P vs. C_T Charts

The bidder shall provide non-dimensional charts of Coefficient of Thrust (C_T) (i.e. weight) vs. Coefficient of Power (C_P) for hover performance in the configuration required for the tests. The bidder shall include such charts for a single IGE hover. For hover OGE charts shall be provided for 'hovering up' from an IGE hover to hover OGE (i.e. hover height above ground no more than 1.5 times rotor diameter), as well as that obtained by 'flying in' to an OGE hover from forward flight at heights over 2 rotor diameters above ground.

5.5 Aircraft Preparation

In preparation for operational testing, all necessary test components including weights and configurations shall be witnessed and endorsed in writing by authorized representatives from CCG, Public Works and Government Services Canada, Transport Canada, the Fairness Monitor, the Bidder Representative and Flight Test Crew.

5.6 Data Collection and Witnessing

During Operational Testing of the Representative Aircraft, data will be gathered by various means including the following:

- Video-recording and/or digital camera photography of internal (cockpit) and outside views, by fixed and/or helmet mounted cameras.
- Audio recording of the intercom channel and the aircraft radios.
- Electronic data entry by the Test Director of the Cooper-Harper survey responses.

CCG will provide the camera(s) and equipment on Day 1 of the evaluations for installation by the Bidder under the supervision of the Test Director. The Test Director will identify where the temporary mounts for the cameras that will be installed. Areas of interest include the flight controls and instrument panels.

All tests described in the Operational Evaluation Test Plan, and resulting data shall be witnessed and endorsed by Canada and Bidder representatives to ensure that all

authorized representatives understand the requirements specified in the test plan, including methodology. Upon completion of each test the designated authorized representatives will witness and acknowledge that the test has concluded. All Pre-Flight and Post-Flight Acknowledgement forms will be endorsed by the Coast Guard, Public Works and Government Services Canada, Transport Canada, the Bidder Representative, Test Crew and the Fairness Monitor

5.7 Schedule

Transport Canada shall provide a mock-up of the facilities and test areas prior to the scheduled evaluation and demonstration dates for the purpose of conducting a full pre-test dry run through of demonstration activities. Dry Run activities will be timed. Given the extent of the Operational Evaluation Testing, it is anticipated that five (5) consecutive days will be required to complete an adequate evaluation. The schedule of activities is found in Section 3 of the Operational Evaluation Test Plan.

In the event of postponement or cancellation due to unforeseen or uncontrollable circumstances such as poor weather conditions, the evaluation will be re-scheduled. If a change in the schedule is required, this will be accomplished through the CCG Project Technical Authority in collaboration with Public Works and Government Services Canada. All changes shall be agreed upon in writing and endorsed by the Bidder Representative, CCG Technical Authority and Public Works and Government Services Canada and the Fairness monitor.

Canada will make every effort to ensure the continuation of the Operational Test is expedited and completed in a timely fashion.

6. FACILITIES

All safety and security requirements related to the facility during the Operational Evaluation Testing will be managed by Transport Canada's Facility Manager. For the purpose of this document "safety and security" refers to the safety and security regulations and policies that have to be adhered to for access to Transport Canada's hangar and restricted areas of Ottawa International Airport (airside).

Transport Canada's Facility Management will oversee all construction activities (ex., shipboard hangar mock up) and facility logistics related to the Operational Evaluation Testing conducted in or around Transport Canada's hangar.

6.1 Security

6.1.1 Airside Security Requirements

The "airside" of the facility is a restricted area. Unescorted access to airside can only be granted to personnel who hold a valid Restricted Area Identification Card (RAIC).

Visitors who do not hold a valid RAIC are only permitted airside with a temporary RAIC, clearly displayed and must be accompanied by an escort at all times.

6.1.2 Facility Security Requirements

Government of Canada (GOC) Personnel is permitted access to Transport Canada facilities. GOC personnel are required to present their GOC ID to the commissionaire office upon entry into the facility. A temporary Transport Canada ID will be provided to personnel and must be clearly displayed at all times.

Non-Government of Canada Personnel are only permitted access with a temporary access card and an escort. Non-GOC personnel are required to present government issued picture ID (ex., driver's license) to the commissionaire office upon entry into the facility. A temporary Transport Canada ID will then be provided and must be clearly displayed at all times.

6.1.3 Escorts

Escorts are required for any personnel holding a temporary RAIC or Transport Canada Facility pass. One escort is required for every 10 people holding an escort required pass. Escorts will be assigned to the Operational Evaluation Test Team by the Transport Canada Facilities Manager.

6.2 Safety

Airside and facility safety will be addressed through a "Safety Orientation" that will be provided to **all** personnel participating in the Operational Evaluation Testing. The orientation will include items such as situational awareness on airside, location of fire exits, parking requirements, location of washrooms etc.

6.3 Meeting Areas

Transport Canada will provide a boardroom for the Canada Evaluation Team to conduct briefings, debriefings and reviews of applicable documentation for certification and endorsement.

A working area (desk/bench) on the hangar floor will also be reserved for the duration of the testing.

Bidders are responsible for booking their own meeting rooms for the duration of the testing.

6.4 Representative Hangar

Transport Canada facilities will fabricate a representation of the required hangar dimensions as stipulated in the CCG Baseline Statement of Requirements for Light Helicopters and the Operational Evaluation Test Plan.

Note: Any requirements that involve construction work on the apron will have to be approved by the Ottawa Airport Authority.

6.5 Human Resources and Material Requirements

To successfully execute the demonstration, the following is a list of material and human resources to be provided by each of the stakeholders involved in the evaluation.

6.5.1 Bidder

- A list of personnel that will be participating in the Operational Evaluation Testing shall be provided to PWGSC at least 14 days prior to the first day of testing. This information shall consist of each individual's name and job title.
- Each visitor is required to have a valid government issued photo ID that can be held at the commissionaire office until the RAIC and Facility pass is returned.

6.5.2 Transport Canada

- A complete a Safety and Security briefing for all evaluation participants completed by Transport Canada Facilities Management.
- A fabrication representing the required hangar dimensions stipulated in the CCG Baseline Statement of Requirements for Light Helicopters.
- The appropriate number of RAIC's and facility passes for all Operational Evaluation test dates.
- Ensure that the appropriate number of RAIC's and facility passes are readily available for all test dates.
- The appropriate number of escorts required for each test day.
- Portable VHF (+Spare) on the ground to communicate with the A/C.

6.5.3 Canadian Coast Guard Technical Authority

- An advanced list of personnel that will be participating in the Operational Evaluation will be supplied to Transport Canada. This list will consist of Government and Bidder personnel, identifying the type of passes required. (5 days advance notice is required to ensure availability of RAIC and Facility passes).
- Each visitor is required to have a valid Government issued photo ID that can be held at the commissionaire office until the RAIC and Facility pass is returned.

- The measurements of the hangar and structures to be constructed (supplied to Transport Canada).
- If required, additional funding for additional escorts.

6.5.4 Public Works and Government Services Canada

- A list of personnel that will be participating in the Operational Evaluation Test including personnel participating on behalf of the Bidder to be supplied to CCG 14 days prior to testing.
- Each visitor is required to have a valid Government issued photo ID that can be held at the commissionaire office until the RAIC and Facility pass is returned.

7. OPERATIONAL EVALUATION TEST SUPPORT

To successfully execute the demonstration, the following is a list of material requirements and human resources to be provided by each of the stakeholders involved in the evaluation.

The Coast Guard, Public Works and Government Services Canada, Transport Canada, the Bidder Representative, Test Crew and the Fairness Monitor will participate in all Operational Evaluation Testing to fulfill the Roles and Responsibilities as described in Section 3 of this document.

7.1 Helicopter Performance

The Helicopter Performance Test will be conducted during Day 3 Activities of the Operational Evaluation Testing.

7.1.1 Bidder

- A Bidder Test Pilot to participate in conducting the test.
- A Bidder Maintenance Engineer to participate in conducting the test.
- Personnel to weigh the aircraft.
- A Representative Aircraft as described in the Operational Evaluation Test Plan.
- Report the differences between the Representative Aircraft and the proposed final aircraft, in “Configuration A”.
- An advance copy of the certified weight and balance data including equipment lists for the Representative Aircraft that will be presented for the purpose of the Operational Evaluation.
- Maintenance documentation on procedures for weighing the aircraft.
- Specialized support equipment for weighing the aircraft.

7.1.2 Transport Canada

- A TC Maintenance Engineer to participate in conducting the test.
- A TC Evaluation Pilot to participate in conducting the test.
- Calibrated Aircraft Weigh Scales **(Jetweigh Aircraft Weighing Kit P/N 64001-04 S/N M1466C)** to weigh the aircraft.
- The scales must be accompanied by the calibration records to ensure accuracy.
- Personnel to operate the scales.
- As required, weigh all personnel, bags and equipment.

7.2 Useful Load

The Useful Load Test will be conducted during Day 3 Activities of the Operational Evaluation Testing.

7.2.1 Bidder

- A Bidder Test Pilot to participate in conducting the test.
- A Bidder Maintenance Engineer to participate in conducting the test
- A Representative Aircraft as described in the Operational Evaluation Test Plan.
- Report the differences between the Representative Aircraft and the proposed final aircraft, in “Configuration A”.
- An advance copy of the certified weight and balance data including equipment lists for the Representative Aircraft that will be presented for the purpose of the Operational Evaluation.
- Two (2) Headsets for TC Evaluation Pilot and Test Director.
- An adapter cable with a U-61/U plug on one end and a U-174/U plug on the other end for Pilot helmets.

7.2.2 Transport Canada

- A TC Maintenance Engineer to participate in conducting the test.
- A TC Evaluation Pilot to participate in conducting the test.
- Ballast Bags (labeled and sealed).
- Calibrated Scales to weigh and certify the total weight of ballast bags and aircraft crew.

7.3 Shipboard Compatibility

The Useful Load Test will be conducted during Day 3 Activities of the Operational Evaluation Testing.

7.3.1 Bidder

- A Bidder Test Pilot to participate in conducting the test.
- A Bidder Maintenance Engineer to participate in conducting the test.
- A Representative Aircraft as described in the Operational Evaluation Test Plan.
- Report the differences between the Representative Aircraft and the proposed final aircraft, in “Configuration A”.
- Maintenance procedures for ground handling the aircraft.
- Flight Manual and/or Maintenance manual or supplement, ICAs for blade folding and unfolding.
- Ground Handlers and Marshallers to move the Representative Aircraft and prepare the aircraft for testing.
- Two (2) personnel to fold the blades without the use of tools and install cradles as specified in the Operational Evaluation Test Plan.
- Ground Handling Wheels and associated ground handling equipment.

7.3.2 Transport Canada

- A TC Maintenance Engineer to participate in conducting the test.
- A TC Evaluation Pilot to participate in conducting the test.
- A videographer, camera and video recording equipment.
- A representative hangar.
- Set up and disassemble the representative hangar.
- Measuring tools to measure the distance between the hangar door opening and main rotor blade tip.

7.4 Vertical Reference Flight

The Vertical Reference Flight Test will be conducted during Day 4 Activities of the Operational Evaluation Testing.

7.4.1 Bidder

- A Bidder Test Pilot to participate in conducting the test
- A Bidder Maintenance Engineer to participate in conducting the test.
- A Representative Aircraft as described in the Operational Evaluation Test Plan.
- Report the differences between the Representative Aircraft and the proposed final aircraft, in Configuration A.
- Handling personnel to prepare the Representative Aircraft for testing.
- Two (2) Headsets for TC Evaluation Pilot and Test Director.
- An adapter cable with a U-61/U plug on one end and a U-174/U plug on the other end for Pilot helmets.
- Transportation for Bidder team to and from Gatineau Airport.

7.4.2 Transport Canada

- A TC Maintenance Engineer to participate in conducting the test.
- A TC Evaluation Pilot to participate in conducting the test.
- A videographer, camera and video recording equipment.
- The necessary approvals to conduct testing at Gatineau Airport.
- Long lines, nets and cargo (ballast) for testing.
- Calibrated Scales to weigh and certify the total weight of ballast bags and aircraft crew.
- Transport equipment, lines, nets and cargo required for testing to Gatineau Airport.
- Mark ground test area of Gatineau Airport as described in the Operational Evaluation test Plan.