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SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

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

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

Comments - Commentaires

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fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
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Title - Sujet HELICOPTER PROJECT (DFO)	
Solicitation No. - N° de l'invitation F7013-120014/F	Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client F7013-120014	Date 2014-02-27
GETS Reference No. - N° de référence de SEAG PW-\$CAG-003-24343	
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 2014-05-27	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
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Solicitation No. - N° de l'invitation

F7013-120014/F

Amd. No. - N° de la modif.

001

Buyer ID - Id de l'acheteur

003cag

Client Ref. No. - N° de réf. du client

F7013-120014

File No. - N° du dossier

003cagF7013-120014

CCC No./N° CCC - FMS No/ N° VME

The amendment to the solicitation and its related annexes are found in the associated documentation attached.

CANADIAN COAST GUARD MEDIUM HELICOPTER PROCUREMENT

The purpose of this amendment is to update the Best Value clause, to include the correct language version of Appendix A to Annex E and to update Annex G.

The Best Value clause has been revised to incorporate the latest version of this clause. This clause will be revised again once the final clause has been implemented

The French version of Appendix A to Annex E was inadvertently included with the English version of the RFP and vice versa. This amendment corrects the error. Other than the language, this amendment does not incorporate any changes.

Locating the pages to Annex G, Bid Score Sheet, in the RFP may be difficult as they are not appropriately identified. For ease of clarification, page headers identifying the annex and table titles have been added. Other than the header information, this amendment does not incorporate any changes.

1. At Part 2, section 6. Best Value

DELETE: Section 6. in its entirety.

INSERT: New Section 6. as follows

6. Best Value

On February 5, 2014 Canada announced its Defence Procurement Strategy (DPS). One of the objectives of the DPS is to improve economic outcomes resulting from Defence and major Coast Guard procurements by using a weighted and rated value proposition. The details of the ratings and evaluation parameters for value propositions will be done on a procurement by procurement basis and will involve industry consultations. The CCG medium-lift helicopter procurement is being considered for a value proposition. If, after consideration, the value proposition is to be included in this requirement the current evaluation methodology will be revised to include its weighting and rating. Bidders will be consulted and additional information will be provided via an amendment to this RFP.

2. At Appendix A to Annex E, Operational Evaluation Test Plan

DELETE: French version of Appendix A to Annex E in its entirety.

INSERT: English version of Appendix A to Annex E attached.

Solicitation No. – No de l'invitation
F7013-120014/F

Amd. No. – No de la modif.
001

Buyer ID – Id de l'acheteur
003cag

Client Ref. No. – No de réf du client
F7013-120014

File No. – No. du dossier
003cagF7013-120014

CCC No./No CCC-FMS No/No VME

3. At Annex G, Bid Evaluation Score Sheet

DELETE: Annex G in its entirety.

INSERT: Annex G attached.

All other terms and conditions remain the same.



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Coast Guard

Garde côtière



Canadian Coast Guard

**Appendix A to ANNEX E
Operational Evaluation
Test Plan**

**Medium Helicopters
CCG Helicopter Project
December 12, 2013**

Approvals

Deputy Project Manager	TBD	Approved: Date:
Project Manager	P. Egener	Approved: Date:
Director General, Major Projects	R. Wight	Approved: Date:

Table of Contents

1. OVERVIEW	1
2. PURPOSE AND KEY DEFINITIONS	3
2.1 Operational Evaluation	3
2.2 Representative Aircraft	3
3 SCHEDULE	5
3.1 Day 1 Activities.....	5
3.2 Day 2 Activities.....	5
3.3 Day 3 Activities.....	6
3.4 Day 4 Activities.....	6
3.5 Day 5 Activities.....	6
4 ASSUMPTIONS AND CONDITIONS	7
4.1 Roles and Responsibilities	7
4.2 Familiarization and Training	9
4.3 Mission and Safety Briefings.....	10
4.4 Weather and Operating Requirements	11
4.5 Ground Handling	11
4.6 Aircraft Preparation.....	11
4.7 Aircraft Documentation	12
4.8 Test Site Preparation	13
4.9 Ground Support	13
4.10 Data Collection and Witnessing	13
4.11 Clothing and Safety Equipment	14
5 OPERATIONAL TEST DESCRIPTION	15
5.1 Helicopter Performance.....	15
5.2 Useful Load	17
5.3 Blade Folding Capability.....	20
5.4 Vertical Reference Flight.....	23
Attachment 1 - Cooper Harper Rating Scale	
Attachment 2 - Bedford Workload Assessment Rating Scale	
Attachment 3 - Mandatory Pre-Mission Safety Briefing	
Attachment 4 - Pre-Test Acknowledgement Forms	
Attachment 5 - Post-Test Acknowledgement Forms	
Attachment 6 Operational Evaluation Test Log – Medium Helicopters	

1. OVERVIEW

The Medium 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, blade folding capability, and vertical reference flight as outlined in the Baseline Statement of Requirements for the CCG Medium 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 at 1717 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 (Appendix B to Annex E of the RFP) 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 Medium Helicopter Logistics Plan for Operational Evaluation is found as Appendix B to ANNEX E of the RFP.

2. PURPOSE AND KEY DEFINITIONS

The Operational Evaluation is designed to demonstrate:

1. Helicopter Performance
2. Useful load
3. Blade Folding Capability
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 Medium helicopter will assess the bidder's proposed aircraft to determine compliance with selected criteria in the CCG Medium 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 Medium 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

	<h2>Canadian Coast Guard Medium Helicopter</h2> <h3>2.2.1 “Configuration A” Aircraft</h3>
<p>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 Medium helicopter, with the exception of the following items:</p>	
A.	Litter Kit.
B.	Auxiliary Fuel Tanks.
C.	Main Rotor and Tail Rotor Tie Downs
D.	All Auxiliary Equipment not Carried On board the Aircraft.
Reference Document	
The Baseline Statement of Requirements for the CCG Medium Helicopters is found in “ANNEX B” of the Statement of Work for Medium Helicopters.	

2.2.2 Bidder Representative

For the purpose of the Operational Evaluation Tests for Medium 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	
0800-900	Bidder and Evaluation Team in-briefing (brief on day's planned activities)
0900-1000	Bidder prepares aircraft for Familiarization Flight (FAM Flight)
1000-1130 (Activity 1)	Familiarization Flight 1 (includes aircraft prep for next FAM flight)
1000-1130 (Activity 2)	Helicopter Performance Evaluation
1130-1230	Lunch
1230-1400	Familiarization Flight 2 (includes aircraft prep for next FAM flight)
1400-1530	Familiarization Flight 3

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 Blade Folding Capability Evaluation
1200-1300	Lunch
1300-1430	Aircraft weighing and ballast weighing
1430-1600	Useful Load Evaluation (flight to be conducted from Ottawa Airport)

3.4 Day 4 Activities

Location: Gatineau Airport, 1717 Arthur-Fecteau Street Gatineau, Quebec	
0800-0900	Equipment and ground crew prep and travel to Gatineau airport
0900-1000	Bidder and Evaluation Team in-briefing (brief on day's planned activities) and Aircraft and flight crew prep/ briefing for departure to test airport
1000-1100	Prepare aircraft for Vertical Reference evaluation
1100-1230	Begin Vertical Reference Evaluation (3 pilots x approximately 1.5 hours for each pilot, this includes pilot changes and refuelling stops)
1230-1330	Lunch
1330-1630	Continue Vertical Reference Evaluation (3 pilots x approximately 1.5 hours for each pilot, this includes pilot changes and refuelling stops)
1630-1730	Operational Testing De-brief

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 Medium 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, 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 Medium 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 on matters pertaining to safety

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 operations, 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. The Transport Canada Chief Pilot Rotorcraft Operations will participate at the beginning of the post-flight debriefing to identify if there are matters related to safety that should be communicated to the rest of the test team.

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 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 and their 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 Medium 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 Medium Helicopter 5.1 Hover Performance Analysis	
Test Objectives (one objective per row)	
1.	Baseline Statement of Requirements 7.1.3: Analysis of 5,000 ft Pressure Altitude OGE hover at ISA +5°C at limit takeoff power.
Canadian Coast Guard Medium 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 Medium Helicopters states that the helicopter in Flight “Configuration A”, as defined in Section 5, shall be capable of carrying a minimum useful load of 2000 lbs (907 kg), plus the necessary fuel for at least 2 hrs plus 20 minutes VFR reserve at a cruise speed of at least 115 knots (213 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 2000 lbs (907kg) plus the necessary fuel for at least 2 hours and 20 minutes VFR reserve at a cruise speed of at least 115 knots (213 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 **Error! Reference source not found.**

- CONTINUED ON NEXT PAGE -

 Canadian Coast Guard Medium Helicopter 5.2 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 2,000 lbs (907 kg) at a minimum TAS of 115 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 2,000 pounds useful load (less weight of crew and equipment).	
E.	Bidders to provide fuel correction factors for any missing external equipment items.	
Canadian Coast Guard Medium 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

Appendix A to ANNEX E - Medium Helicopters Operational Evaluation Test Plan
To F7013-120014/F

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 115KIAS minimum.	
7.	Start timing.	
8.	Maintain cruise at a minimum of 115 KIAS for 30 minutes minimum, heading away from departure airport.	Note cruise altitude: _____ Note cruise torque: _____ 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 2 - Useful load

5.3 Blade Folding Capability

5.3.1 Critical Operational Issue #1:

Requirement 7.4.6 of the CCG Baseline Statement of Requirements for Medium Helicopters states that the helicopter shall be furnished with a main rotor blade folding kit that allows the main rotor blades to remain attached to the main rotor head during the folding and unfolding procedure, and does not require the use of tools.

Requirement 7.2.5 of the CCG Baseline Statement of Requirements for Medium 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 (manufacturer supplied cradles can be used where necessary) and without removing the blades.

5.3.3 Test Procedures and Documentation of Test Results

The test procedures and results documentation for the blade folding capability evaluation are shown in **Error! Reference source not found. Error! Reference source not found.**

- CONTINUED ON NEXT PAGE -

 Canadian Coast Guard Medium Helicopter 5.3 Blade Folding Capability 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.	
Test Prerequisites		
A.	Aircraft to be prepared for rotor blade folding in accordance with manufacturer's procedures. If there is any (minimum or maximum) time required between shutdown and blade folding, 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.	For ground handling operations, any necessary marshalls (provided by the Bidder) shall be stationed on either side of the helicopter with a clear view of the nose and tail	
D.	Video recording of the folding and unfolding of the rotor blade is required.	

Canadian Coast Guard Medium Helicopter Blade Folding Capability Evaluation Procedure		
	Test Condition / Procedure	Observations / Data
1.	Position and shutdown the helicopter outside the hangar at Transport Canada.	
2.	Prepare helicopter for blade folding.	
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 that the blade folding process is complete (except for any paperwork necessary for maintenance tracking purposes).	Record elapsed time for blade folding: _____H_____MM
6.	Stop camera recording.	
7.	Repeat steps 1-6 of this test card for blade unfolding.	Record elapsed time for blade unfolding: _____H_____MM

Figure 3 – Blade folding capability evaluation procedure

5.4 Vertical Reference Flight

5.4.1 Critical Operational Issue

Requirement 8.4 of the CCG Baseline Requirements for Medium 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 from the bidders designated Vertical Reference seat. 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 10 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 place the load on the ground within 5 feet laterally of the target.
- 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 10 seconds.

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

- Upon completion of the circuit and arrival, the pilot shall place the load on the ground within 5 feet laterally of the target.

Test Procedures and Documentation of Test Results

The test procedures and results documentation for the Vertical Reference Flight Evaluation are shown in Figure 4 below.

- CONTINUED ON NEXT PAGE -

 Canadian Coast Guard Medium Helicopter 5.4 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.	

Appendix A to ANNEX E - Medium Helicopters Operational Evaluation Test Plan
To F7013-120014/F

Canadian Coast Guard Medium Helicopter Vertical Reference Flight Evaluation Procedure		
	Test Condition / Procedure	Observations / Data
	Phase 1	
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.
	SCORE STEPS 1-3	
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 10 seconds.	Ground observer will video tape position for accuracy and stability
6.	TC Evaluation pilot transfers control to company pilot.	
7.	Test Director walks TC Pilot through Cooper-Harper questionnaire relating to maintaining hover position.	Note Cooper-Harper rating for position maintenance task: _____
	SCORE STEPS 4-7	
8.	Company pilot transfers control to TC Evaluation pilot.	
9.	TC pilot positions into VR seating position while holding aircraft in 5 ft landing gear height hover over target for 10 seconds. Tolerance +/- 2 ft vertically and +/- 5 ft laterally.	Note ability to transition to VR seating position:
10.	TC pilot transfers control to company pilot.	

 Canadian Coast Guard Medium Helicopter 5.4 Vertical Reference Flight Evaluation		
11.	Test Director walks TC Evaluation Pilot through Cooper-Harper questionnaire relating to maintaining helicopter position.	Note Cooper-Harper rating for position maintenance task: _____
	SCORE STEPS 8-11	
12.	Company pilot transfers control to TC Evaluation Pilot.	Note Pressure Altitude (29.92): _____ ft. Note OAT: _____ °C Note fuel quantity: _____ Note OGE hover power indications: _____
13.	TC Evaluation Pilot lands helicopter and ground crew attaches 50 ft long line and load.	
14.	TC Evaluation pilot lifts load clear of ground and transitions to forward flight and completes circuit. TC Evaluation pilot evaluates emergency release control switch position.	Accessibility of emergency release control switch Sat () Unsat()
15.	TC pilot terminates circuit and shall place the load on the ground within 5 feet laterally of the target.	
16.	TC pilot sets load on the ground and transfers control to company pilot.	
17.	Test Director walks TC pilot through Cooper-Harper questionnaire relating to positioning of the load onto the target.	Note Cooper-Harper rating for load position maintenance task: _____
	SCORE STEPS 12-17	
18.	Company pilot transfers control to TC Evaluation pilot	
19.	TC pilot lifts load clear of ground in a stabilized hover.	

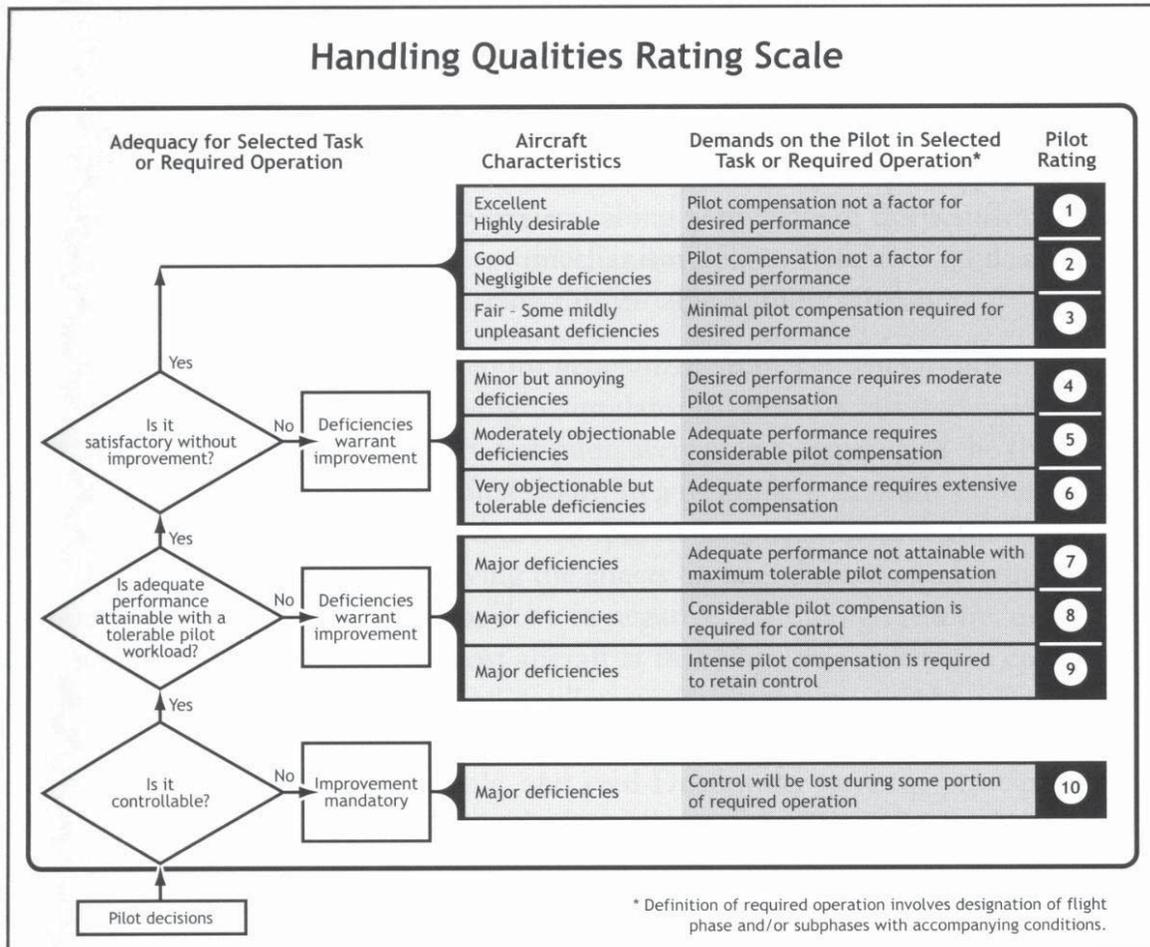
 Canadian Coast Guard Medium Helicopter 5.4 Vertical Reference Flight Evaluation		
20.	TC Evaluation pilot responds to secondary task #1 – receive and respond to a radio transmission.	
21.	TC Evaluation pilot responds to secondary task #2 – acknowledge and react to a simulated malfunction requiring a simulated release of sling load and landing of helicopter	
22.	TC Evaluation pilot lands helicopter and transfers control to company pilot.	
23.	Test Director walks TC Evaluation Pilot through Cooper-Harper questionnaire relating to malfunction response and Bedford evaluation relating to radio task workload.	Note Cooper-Harper rating for landing task: _____ Note Bedford rating for radio task: _____ _____
	SCORE STEPS 18-23	
24.	Stop camera recording and shutdown helicopter if necessary.	
25.	Compare OGE hover power-required for ambient conditions with AFM data.	Note calculated OGE power required from AFM: _____
26.	Ground crew attaches 125 ft longline and load to helicopter	
27.	Start camera recording	
28.	TC pilot starts helicopter if required.	

 Canadian Coast Guard Medium Helicopter 5.4 Vertical Reference Flight Evaluation		
29.	TC pilot hovers aircraft to 125 ft over load and lifts load clear of ground	
30.	TC pilot transitions to forward flight and completes circuit.	
31.	TC pilot terminates circuit and shall place the load on the ground within 5 feet laterally of the target.(test 6)	
32.	TC pilot sets load on ground and lands helicopter.	
33.	TC pilot transfers control to company pilot	
34.	Test Director walks TC pilot through Cooper-Harper questionnaire relating to holding load over target.	Note Cooper-Harper rating for load position maintenance task: _____
	SCORE STEPS 24-34	
35.	Company pilot completes helicopter shutdown, this concludes Vertical Reference Evaluation.	

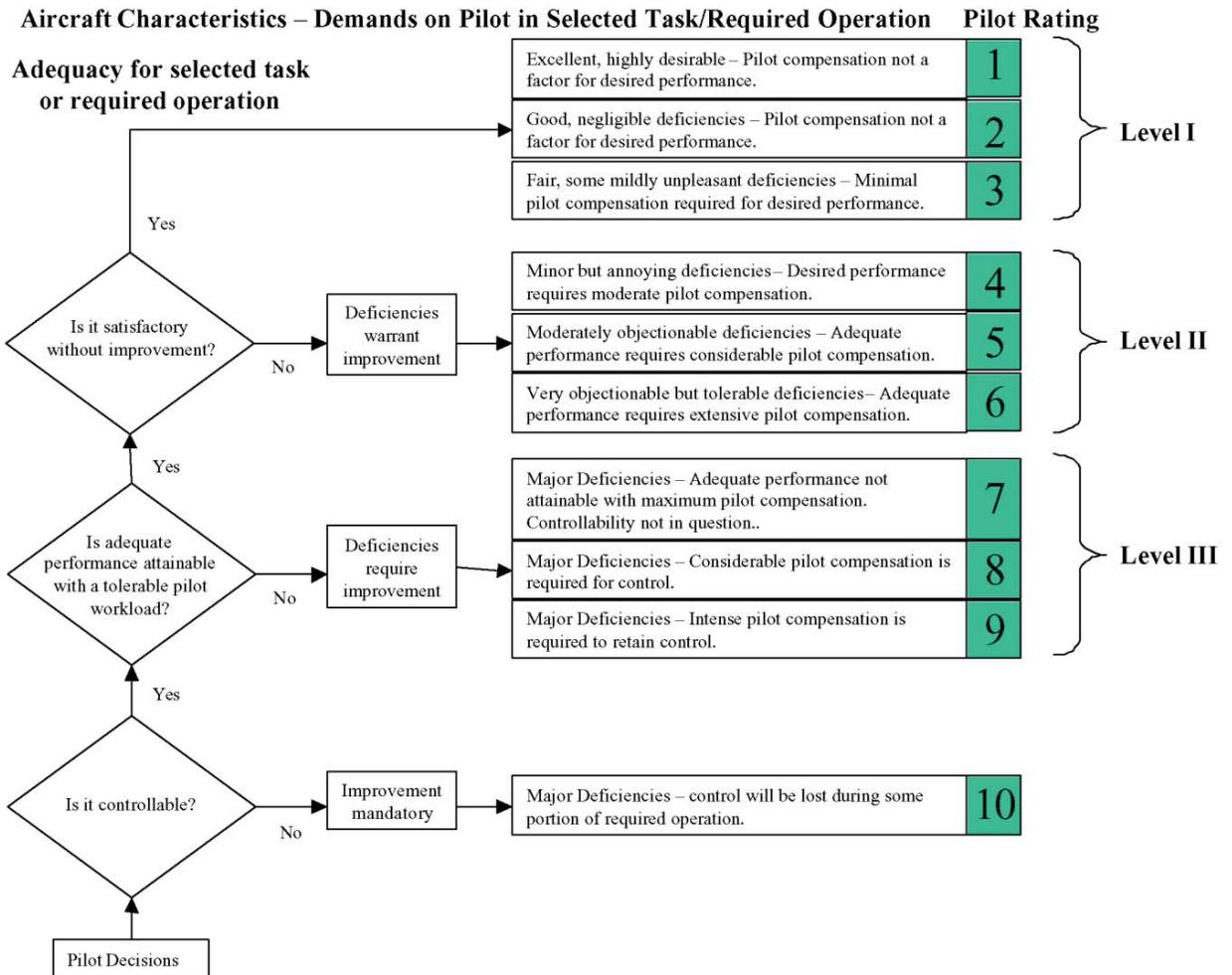
Figure 4 – Vertical Reference Evaluation Procedure

- END OF TEST -

Attachment 1 - Cooper Harper Rating Scale



Attachment 2 - Bedford Workload Assessment Rating Scale



Attachment 3 - Mandatory Pre-Mission Safety Briefing

MV-SRB-001
 Short Form SRB Checklist

Version 4.0_Sep 1, 2008
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 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	MINOR	MAJOR	HAZARDOUS	CATASTROPHIC
FAILURE PROBABILITY				
Probable	LOW	MEDIUM	HIGH	HIGH
Improbable-Remote	LOW	LOW	MEDIUM	HIGH
Extremely Remote	LOW	LOW	LOW	MEDIUM
Extremely Improbable	LOW	LOW	LOW	LOW

Attachment 4 - Pre-Test Acknowledgement Forms

DATE: _____ TEST #: _____

4-1. 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
- Bidder Supplies AFM Data
- 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: _____

Attachment 4 - Pre-Test Acknowledgement Forms

DATE: _____ TEST #: _____

4-2. 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
- 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
- Ballast bags weighed
- Aircraft has been fueled to maximum capacity
- Aircraft has been ballasted to 2000 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: _____

Attachment 4 - Pre-Test Acknowledgement Forms

DATE: _____ TEST #: _____

4-3. OPERATIONAL TEST – BLADE FOLDING 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 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: _____

Attachment 4 - Pre-Test Acknowledgement Forms

DATE: _____ TEST #: _____

4-4. 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: _____

Attachment 5 Post-Test Acknowledgement Forms

DATE: _____ TEST #: _____

5-1. POST FLIGHT ACKNOWLEDGEMENT

CHECK THE APPROPRIATE BLOCK () TO IDENTIFY THE APPLICABLE TEST

- | | |
|----------------------------|--------------------------|
| 1) Helicopter Performance | <input type="checkbox"/> |
| 2) Useful Load | <input type="checkbox"/> |
| 3) Shipboard Compatibility | <input type="checkbox"/> |
| 4) Vertical Reference | <input type="checkbox"/> |

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 Medium 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: _____

Attachment 6 Operational Evaluation Test Log – Medium Helicopters

FLIGHT LOG DATE: _____ TEST #: _____

EVALUATION PILOT: _____

BIDDER TEST PILOT: _____

TEST DIRECTOR: _____

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

ANNEX G - BID EVALUATION SCORE SHEET
TO F7013-120014/F Amendment 001

Summary

Weight **FINANCIAL**

Weight	Description	Unit Price			Acquisition Sub-total		
		Bidder A	Bidder B	Bidder C	Bidder A	Bidder B	Bidder C
50	Acquisition						
4		19,000,000	18,500,000	20,000,000	76,000,000	74,000,000	80,000,000
5		18,900,000	18,400,000	19,900,000	94,500,000	92,000,000	99,500,000
6		18,800,000	18,300,000	19,800,000	112,800,000	109,800,000	118,800,000
7		18,700,000	18,200,000	19,700,000	130,900,000	127,400,000	137,900,000
8		18,600,000	18,100,000	19,600,000	148,800,000	144,800,000	156,800,000
		Sum of prices for all quantities is Total Bid Price (Pn)=			563,000,000	548,000,000	593,000,000
		Lowest Price Proposal (LowPP) =			548,000,000		
		LowPP / Pn =			0.97	1.00	0.92
10	TECHNICAL	O&M Cost Proposal (OMC) =			1,245	1,166	1,433
	O&M	Lowest O&M Cost (LowOMC) =			1,166		
		LowOMC / OMC =			0.94	1.00	0.81
		Multiplied by O&M Weight to give O&M Points =			9	10	8
15	Operational Test	Operational Test Score for each bidder (OTSn) =			104	100	100
	See separate worksheet	Maximum Operational Test Score (MaxOTS) =			110	110	110
		OTSn / MaxOTS =			0.95	0.91	0.91
		Multiplied by Operational Test Weight to give Operational Test Points =			14.2	13.6	13.6
15	Rated Requirements	Rated Score for each bidder (RSn) =			32.50	50.00	47.45
	See separate worksheet	Maximum Rated Score (MaxRS) =			100		
		RSn / MaxRS =			0.33	0.50	0.47
		Multiplied by Rated Weight to give Rated Requirements Points =			4.9	7.5	7.1
6	Project Management	PMP Score (PMPn) =			23	24	22
	Project Management Plan	Maximum Rated Score (MaxPMP) =			32		
	See separate worksheet	PMPn / MaxPMP =			0.72	0.75	0.69
		Multiplied by Rated Weight to give Project Management Plan Points =			4.31	4.50	4.13
4	Maintenance Management Plan	MMP Score (MMPn) =			27	38	33
	See separate worksheet	Maximum Rated Score (MaxMMP) =			44		
		MMPn / MaxMMP =			0.61	0.86	0.75
		Multiplied by Rated Weight to give Maintenance Management Plan Points =			2.45	3.45	3.00
100		Total Weighted Technical Points Awarded to each bidder (TPn) =			35.19	39.09	36.02
		Total Available Technical Points (TTP) =			50		
		TPn / TTP =			0.70	0.78	0.72
		Price Weighting Factor (Pwt) =			50		
		Technical Weighting Factor (Twrt) =			50		
		LowPP / Pn =			0.973357016	1.000	0.924
		Bidders Final Score =			69.44	78.18	69.30

$$\text{Bidders Final Score} = (\text{TPn} / \text{TTP}) \times (\text{Pwt} \times \text{LowPP} / \text{Pn}) + (\text{TPn} / \text{TTP} \times \text{Twrt})$$

**ANNEX G - BID EVALUATION SCORE SHEET
TO F7013-120014/F Amendment 001**

Operational Test	Scale used	Evaluation Scores		
		Bidder 1	Bidder 2	Bidder 3
5.1 Hover Performance Analysis	Pass/fail	Pass	Pass	Pass
5.2 Useful Load	Pass/fail	Pass	Pass	Pass
5.3 Blade Folding Capability	Pass/fail	Pass	Pass	Pass
5.4 Vertical Reference Flight				
Score of test points 1-3	1 Only Bedford	1	1	3
Score of test points 4-7	2 Cooper + Bedford	2	6	4
Score of test points 8-11	2 Cooper + Bedford	4	4	3
Score of test points 12-17	2 Cooper + Bedford	3	4	3
Score of test points 18-23	2 Cooper + Bedford	5	4	6
Score of test points 24-34	2 Cooper + Bedford	2	2	2
Operational Test Score for each bidder (OTS _n) =		17	21	21
		104	100	100

Modify the points awarded by each scale so
Max is 10 and Min is 1. This enables the

**ANNEX G - BID EVALUATION SCORE SHEET
TO F7013-120014/F Amendment 001**

Project Management Plan

0 The Bidder did not submit a Project Management Plan

The Bidder elaborated on a few identified main sections leaving many gaps. The Bidder did not sufficiently demonstrate how the project will be managed giving the Helicopter Project team a low degree confidence for success.

1 Project team a low degree confidence for success.

2 The Bidder elaborated on most identified main sections leaving minimal gaps. In most cases the Bidder demonstrated how the project will be managed giving the Helicopter project team an acceptable degree confidence for success.

3 The Bidder **elaborated** on each identified main section. The Bidder demonstrated how the project will be managed providing the Helicopter project team with a **good degree confidence** for success.

4 The Bidder **fully elaborated** on each identified main section as well and included other applicable and pertinent information. The Bidder clearly and effectively demonstrated how the project will be managed providing the helicopter project team with a **high degree of confidence** for success.

Project Management Plan	<i>Max</i>	<i>Bidder A</i>	<i>Bidder B</i>	<i>Bidder C</i>
Master Project Schedule	4	2	2	3
Communication and Issue Management Plan	4	4	4	3
Risk Management Plan	4	4	3	3
Quality Management Plan	4	2	4	3
Technical Data Management Plan	4	4	3	2
Configuration and Change Management Plan	4	3	2	2
Infrastructure Plan	4	2	2	3
HR Plan	4	2	4	3
PMP Score (PMPn) =	32	23	24	22

ANNEX G - BID EVALUATION SCORE SHEET
 TO F7013-120014/F Amendment 001

Maintenance Management Plan - Scoring Matrix

	Existing	In place at 1st delivery of Helo	In place at last delivery of helo	Max	Bidder A	Bidder B	Bidder C
Primary warehouse* location							
Canada	12	11	10	12	8	10	7
United States	10	9	8				
Other	8	7	6				
% of recommended spare parts list SKUs for the CCG fleet stocked at primary warehouse							
Above 80%	12	11	10	12	10	12	9
60-79%	10	9	8				
40-59%	8	7	6				
20-39%	6	5	4				
Under 20%	4	3	2				
Parts Rental Program for powertrain	5	4	3	5	5	4	5
Parts Rental Program for drivetrain	5	4	3	5	4	3	4
Parts Exchange Program for powertrain and drivetrain c	5	4	3	5	4	5	5
Parts Exchange Program for all other components	5	4	3	5	4	4	3
			MMP Score (MVPn) =	44	31	38	33
* As defined in the SOW							