

Solicitation No. - N° de l'invitation
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Buyer ID - Id de l'acheteur
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ANNEX D
TECHNICAL STATEMENT OF WORK
FOR
SEARCH AND RESCUE (SAR) TECHNICIAN
HELMET SYSTEM (STHS)

RDIMS # 1664261 v7

SCOPE

This Statement of Work (SOW) is to define the requirements that apply to the provision of a cranial and facial protection system here after referred to as a Search and Rescue Technician Helmet system (STHS).

Background

SAR Techs are mandated to conduct rescue operations from Fixed Wing (FW) and Rotary Wing (RW) SAR aircraft. SAR Techs must be able to penetrate an incident site, day or night, during extreme conditions. Incident sites can include open fields, mountainous areas, forests, ice and snow covered terrain, confined areas and fresh or salt bodies of water. Currently in order to conduct effective operations, systems of 6 different helmets are used to provide the maximum protection and efficiency throughout the different phases of the mission. Department of National Defense (DND) has a requirement for a single technologically advanced solution.

APPLICABLE DOCUMENTS

Applicability

The following documents form part of this specification to the extent specified herein, and are supportive of the specification when referenced in Section 3.0 and beyond; all other document references are to be considered supplemental information only. Unless otherwise specified, the issue or amendment of documents effective for the Contract must be those in effect on the date of the Contract Award. In the event of a conflict between the documents referenced herein and the contents of the specification, then the contents of the specification must take precedence.

- (a) MIL-HDBK-61A Configuration Management Guidance (www.everyspec.com);
- (b) B-GA-209-001/FP-001, 30 Sep 2014 - Canadian Aeronautical and Maritime Search and Rescue Manual (CAMSAR);
- (c) AECTP-230 (Edition 1) - Climatic Conditions;
- (d) D-01-400-002/SF-000 - Specification for Levels of Engineering Drawings and Associated Lists; and
- (e) D-02-002-001/SG-001 - Canadian Forces Standard Identification Marking of Canadian Military Property.

Terminology

The following is a list of acronyms that can be used in this SOW or any communication regarding this SOW:

- (e) AC Aircraft

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(f)	ASTM	American Society for Testing of Materials
(g)	CEP	Communication Ear Plugs
(h)	CSA	Canadian Standards Association
(i)	DND	Department of National Defense
(j)	EAD	External Attachment Devices
(k)	FW	Fixed Wing
(l)	ILS	Integrated Logistic Support
(m)	ISO	International Standards Organization
(n)	NRR	Noise Reduction Rating
(o)	NSN	NATO Stock Number
(p)	RCAF	Royal Canadian Air Force
(q)	RW	Rotary Wing
(r)	SAR	Search and Rescue
(s)	SOR	Statement of Requirements
(t)	SOW	Statement of Work
(u)	STHS	Search and Rescue Technician Helmet System
(v)	TA	Technical Authority
(w)	UHF	Ultra-High Frequency
(x)	VHF	Very High Frequency

OBJECTIVE

3.1 Purpose. The purpose of this SOW is for the procurement of a safe, reliable, and functional STHS to support operational requirements for SAR operations.

3.1.1 This SOW will provide for initial provisioning of STHS as well as Integrated Logistics Support (ILS);

3.1.2 This SOW will provide a performance and material specification addressing the needs of the operational Statement of Requirement (SOR) to:

- (a) identify the technical design requirements for the STHS; and
- (b) identify the standards, specification requirements, and the verification methods that will be used to technically validate the compliance of the STHS to the specification.

3.2 Scope. This SOW establishes the requirements for the operational performance, design, verification, maintainability, quality assurance, and operability for the new STHS, for procurement purposes of 200 units. The nature of work to be performed by the STHS provider under this SOW involves providing:

- (a) Delivery of new STHS units;
- (b) Ancillary Equipment;
- (c) Recommendation for Spare Parts;
- (d) Production and delivery of operating and maintenance manuals free of Intellectual property rights that would restrict DND's use of the information for its purposes;
- (e) Initial cadre training support;
- (f) Course syllabus and material to allow regenerative training by qualified CAF personnel; and
- (g) Documentation of the performed work and delivered product.

3.3 Intended Use. The STHS is intended as a replacement system for the 6 Helmet systems currently in use by SAR units.

REQUIREMENTS

4.1 The STHS must comply with the following technical requirements. Compliance to the below requirements will be subject to formal field testing by DND;

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- (a) The STHS system must include a fit system that provides for varying head shapes throughout the range of sizes while wearing a diving hood, balaclava or with an uncovered head. The size range will cover from small to extra-large ;
 - (b) Provide for retention during parachuting, hoisting, mountain climbing/repelling, and swimming in conditions of high wind blast, rotor wash, in water, treed areas, open land, in dry, snow or ice covered conditions;
 - (c) Provide, cranial impact protection/attenuation and comfort throughout all mission scenarios as indicated in 4.1 (b);
 - (d) Protect the wearers face and eyes and not cause the wearer's vision to be obscured nor result in any unwanted adverse contact with the wearer's head or neck when there is maximum amount of STHS displacement in operational use while allowing for the wearer to make adjustments with one hand while wearing gloves. It must allow for unobscured vision in high light day time and very low light night time conditions, It must not interfere with the wearing of personal prescription eyewear;
 - (e) Accommodate fitment of EADs (External Attachment Devices) if any, securely and stable throughout all mission scenarios as indicated in 4.1(b). EADs if any will be easily adaptable and changeable by SAR Techs to function during the different phases of the particular mission as it changes;
 - (f) Must not create a snagging situation for the wearer during the conduct of the mission with any of the other equipment used to enact a successful rescue;
 - (g) Provide secure facial and visual protection through the range of missions conducted from FW and RW AC throughout all scenarios as indicated in 4.1 (b);
 - (h) Must transmit over UHF and VHF frequencies with noise abatement;
 - (i) Provide noise reduction hearing protection without inhibiting communications and allow for talk through communication with the rescuer and casualty. It must provide a minimum Noise Reduction Rating (NRR) of 23dBA of sound attenuation to minimize the potential for hearing loss in frequencies from 31.5 to 300 Hz. It must provide a minimum NRR of 7dBA of sound attenuation to minimize the potential for hearing loss in frequencies from 300 to 4000 Hz. As per section 7.4 of the Canadian Labour Code 87dBA of sound attenuation. If the STHS communication solution includes CEPs the interface between the STHS and CEP must be wireless;
 - (j) Be compatible with the existing intercom systems on RCAF FW and RW aircraft and allow communication between SAR Techs and to the aircrew using VHF/UHF radio when outside of the FW and RW aircraft.
 - (k) Allow for wireless communication while the wearer is conducting operations external to the AC platform;
 - (l) The STHS communication system must be waterproof and fully functional in all climatic conditions including water spray, rainfall, high winds, snow and freezing rain;
 - (m) The STHS communication system must be fully functional after being submerged in three meters of fresh or salt water for a period of five (5) minutes;
 - (n) Provide a positive indication to the wearer, either sound or physical, when the retention system is engaged;
 - (o) Material that comes into contact with SAR Tech must be such that it prevents sweating in warmer temperatures and warms quickly in colder temperatures;
 - (p) The STHS colour must be the high visibility international orange colour used on other SAR Tech clothing and equipment or have other means such as reflective material or lighting for high visibility;
 - (q) It must be no greater than four (4) pounds in final configuration with all EADs if any;
 - (r) The STHS components must be durable and sustain multiple user training and mission scenarios with minimum replacement of parts over its life;
 - (s) Constructed of non-hazardous materials that do not cause skin irritation or allergic reaction to wet or dry skin and do not pose a health risk or toxic hazard to the user under normal conditions or as a result of damage to the equipment while wearing, maintaining or repairing the STHS;

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- (t) All components of the STHS must provide for ease of maintenance as to allow RCAF users and technicians to carry out routine inspection and maintenance in accordance with supplier instructions;
- (u) The STHS must have a shelf life when stored in the manufacturer's original packaging of not less than ten (10) years and while following supplier maintenance instructions, the STHS must remain serviceable for a minimum of ten (10) years;
- (v) The STHS must permit the rapid and easy removal and replacement of components by the user without the requirement for special skills or tools other than standard hand tools (i.e. screwdriver, wrench, etc.);
- (w) The STHS must not require special disposal procedures;
- (x) The STHS must be protected against corrosion and deterioration caused by atmospheric conditions, water and airborne corrosive agents and salt water; and
- (y) The STHS must support cleaning by wipe down with mild soap and water using a cloth and/or brush

DELIVERABLES

5.1 The manufacturer must provide DND with one (1) hard copy and one electronic reproducible copy of the following technical data:

- (a) the complete description of the STHS, including detailed description drawings (level 1) in accordance with D-01-400-002/SF-000, showing all components, part numbers, material identification, "exploded views", and associated specifications, cross referencing part names and part numbers. If part numbers applied to the equipment are company explicit and have a common industry standard part number associated with it, both part numbers must be displayed. (Example. NAS, MS etc.);
- (b) the user operating and care instructions;
- (c) the maintenance instructions, including information regarding inspection, testing, repair, recommended inspection intervals, and service life; and
- (d) the fitting and sizing procedures.

5.2 The manufacturer must provide three (3) complete STHS ranging from medium to extra-large.

- (a) the Contractor must submit and maintain to DND a Recommended Spare Parts List applicable to the parts breakdown as indicated in the OEM maintenance manual. The document must also provide for each component the Part Number and associated NSN if available, the replacement cost and the manufacturer and shelf life if any.
- (b) the recommended Spare Parts List must include but not limited to the following information for each item (in MS Excel format):
 - i. Item Name;
 - ii. Manufacturer Part Number (MPN);
 - iii. Price;
 - iv. Volume;
 - v. Weight; and
 - vi. Shelf Life (if applicable).
- (c) company specific part numbers that carry a common industry associated part numbers must have both part numbers listed

5.3 Identification marking information for each STHS must be permanently marked in accordance with D-02-002-001/SG-001. Unless otherwise specified, all STHS markings must be made from permanent, black, non-migrating ink. The ink must have no deleterious effect on the surface marked. Characters must be not less than 1.6 mm (1/16 inch) or more than 3.2 mm (1/8 inch) high.

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5.4 Each STHS must have a waterproof bilingual identification label on the inner side of the STHS. The label must be marked with the following information:

- (a) Item Name;
- (b) NATO Stock Number;
- (c) Size;
- (d) Contract Number;
- (e) Date of Manufacture;
- (f) Manufacturer's Name; and
- (g) Serial Number.

QUALITY ASSURANCE PROGRAM

6.1 Applicability: The specifics related to quality assurance and production performance are applicable to all manufacturing and deliverables related to DND procurements as part of this statement of work except where explicitly stated otherwise.

6.2 Quality Assurance (QA): DND reserves the right to perform any verification or validation activities deemed necessary to confirm that the materials and services conform to the specification and the Contract requirements. The Contractor must:

- (a) establish, implement, document and maintain a quality system that ensures conformance to contractual requirements and meets the requirements of the ISO 9001 or an equivalent quality system model during performance of the Contract; and
- (b) conduct quality conformance inspections and tests during manufacture in accordance with the Contractor's standard acceptance test plan. Details of the test plan and documentation of all inspections/tests are to be provided to DND upon request.

6.3 Configuration Control: The Contractor must have an established, DND verifiable, Configuration Management Program with control systems in place in accordance with MIL-HDBK-61A, and must provide configuration identification, control and status accounting of all new and/or modified hardware and documentation. All Helmets delivered must have the same product baseline and support interchangeability/interoperability of parts. The established product baseline must be maintained during repair and any deviation from the baseline must be approved in advance by the TA.

INTEGRATED LOGISTIC SUPPORT

7.1 Training and Support: The Contractor must provide to DND, initial Cadre training and support for the STHS. On request by DND, the Contractor must also make available a Technical Representative (Tech Rep) who is fully knowledgeable with the operation and maintenance of the STHS.

7.2 CADRE Training: The initial cadre training provided by the Contractor must take place at a location TBD after initial contract award as per the contractor proposal. The training must include but may not be limited to: introduction, description, maintenance, inspection, testing, repair, fitting, cleaning, operation and use of the STHS. The Contractor must provide DND with an initial cadre training package for both operators and technicians which must include:

- (a) a training package to initially field the system with DND qualified personnel; and
- (b) a course package to allow DND regenerative training by qualified personnel.

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APPENDIX 1 TO ANNEX «D»

TECHNICAL EVALUATION PLAN

FOR THE SEARCH AND RESCUE (SAR) TECHNICIAN

HELMET SYSTEM (STHS)

1.0 INTRODUCTION

1.1. General Information:

The Director Aerospace Equipment Program Management (DAEPM) Fighters and Trainers (FT) 6 is responsible for managing various pieces of equipment concerning a wide variety of applications used by Search and Rescue (SAR) in efforts to save human life in response to emergency situations across Canada and in Canada's waterways and oceans. As such the SAR community has a requirement for a single technologically advanced mission specific STHS to support training and operations and will replace the current six different helmet systems employed by SAR Technician (Techs) that do not meet all of the SAR Tech protection or operational requirements either singly or collectively.

2.0 EVALUATION CONCEPT

2.1. Evaluation Methodology:

The evaluation will take place in three (3) parts as follows:

- (c) Part 1 – Technical Evaluation: Response information provided by the bidders will be evaluated and the status of the resulting evaluation criteria is as Pass/Fail. All successful candidates of this part will have their proposed equipment/item/system forwarded to part two (2) of the evaluation.
- (d) Part 2 – Operational Testing and Evaluation: Proposed equipment/item/system will be field tested, evaluated and rated by SAR Techs carrying out actual SAR training and mission scenarios using the equipment and manuals. These will receive a rating and the rating will be weighted. Equipment not receiving a rating of five (5), in any category, will be considered non-compliant.
- (e) Part 3 – Financial Evaluation: This part will be completed by Public Services and Procurement Canada (PSPC) evaluating the cost quotes and ranking them highest to lowest while applying the rating obtained in part two (2) of the evaluation.

3.0 SCORING THE PROPOSAL

3.1. Mandatory Requirement:

The technical evaluation consists of 25 mandatory requirements:

3.2. Rated Requirement:

The technical evaluation consists of 19 rated requirements:

3.3. Methodology:

The bidder will be required to provide the technical data package for their equipment to include the operations and maintenance manuals as well as sealed samples of their equipment for evaluation in part two (2). Equipment provided by bidders that did not meet the mandatory requirements of part one (1) will have their equipment returned unopened. Equipment supplied by the Bidders that moves forward to part two (2) will not be returned. It will be destroyed on completion of the testing and contract award as the

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serviceability of the item cannot be guaranteed. The rating results of part two (2) will be forwarded to PSPC to be applied to the financial evaluation process of part three (3).

4.0 EVALUATION INSTRUCTIONS

4.1. Bid Proposal Technical Data Package

The following data must be provided with the bid proposal:

- (f) A copy of the drawing of the proposed equipment to include any external devices and any attachments;
- (g) A copy of the user's/operator's and maintenance manuals on CD and in PDF format;
- (h) Three (3) sealed samples of the current version of the proposed equipment (size TBD) for evaluation in part two (2) including any externals and attachments required to carry out the full range of testing; and
- (i) A copy of any certifications the equipment holds or the test data that shows the equipment meets the requirements as stated in the SOW.

4.2. Evaluator Form:

See Enclosure 1

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ENCLOSURE 1 OF APPENDIX 1 TO ANNEX D
PART 1 - Mandatory Technical Criteria Screening
BID EVALUATION FORM
FOR THE SEARCH AND RESCUE (SAR) TECHNICIAN
HELMET SYSTEM (STHS)

Date:

Evaluator:

Bidder:

Table 1: Compliance Matrix – Mandatory

Item #	Mandatory Requirement	Evaluation Criteria	Compliant (Y/N)
1	SOW 4.1(a) The STHS system must include a fit system that provides for varying head shapes throughout the range of sizes while wearing a diving hood, balaclava or with an uncovered head. The size range will cover from small to extra-large.	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
2	SOW 4.1.(b) Provide for retention during parachuting, hoisting, mountain climbing/repelling, and swimming in conditions of high wind blast, rotor wash, in water, treed areas, open land, in dry ?, snow or ice covered conditions.	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
3	SOW 4.1(c) Provide, cranial impact protection/attenuation and comfort throughout all mission scenarios as indicated in 5.1 (b).	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
4	SOW 4.1(d) Protect the wearers face and eyes and not cause the wearer's vision to be obscured nor result in any unwanted adverse contact with the wearer's head or neck when there is maximum amount of STHS displacement in operational use while allowing for the wearer to make adjustments with one hand while wearing gloves. It must allow for unobscured vision in high light day time and very low light night time conditions. It must not interfere with the	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	

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	wearing of personal prescription eyewear.		
5	SOW 4.1 (e). Accommodate fitment of EADs (External Attachment Devices) if any, securely and stable throughout all mission scenarios as indicated in 5.1(b). EADs if any will be easily adaptable and changeable by SAR Techs to function during the different phases of the particular mission as it changes	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
6	SOW 4.1 (f) Must not create a snagging situation for the wearer during the conduct of the mission with any of the other equipment used to enact a successful rescue.	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
7	SOW 4.1 (g) Provide secure facial and visual protection through the range of missions conducted from FW and RW AC throughout all scenarios as indicated in 5.1 (b);	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
8	SOW 4.1.(h) Have that the capability to transmit over UHF and VHF frequencies with noise abatement.	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
9	SOW 4.1 (i) Provide noise reduction hearing protection without inhibiting communications and allow for talk through communication with the rescuer and casualty. It must provide a minimum Noise Reduction Rating (NRR) of 23dBA of sound attenuation to minimize the potential for hearing loss in frequencies from 31.5 to 300 Hz. It must provide a minimum NRR of 7dBA of sound attenuation to minimize the potential for hearing loss in frequencies from 300 to 4000 Hz. As per section 7.4 of the Canadian Labour Code 87dBA of sound attenuation. If the STHS communication solution includes CEPs the interface between the STHS and CEP must be wireless.	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
10	SOW 4.1 (j) Be compatible with the existing intercom systems on RCAF FW and RW aircraft and allow communication between SAR Techs and to the aircrew using VHF/UHF radio when outside of the FW and RW aircraft.	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	

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11	SOW 4.1. (k) Allow for wireless communication while the wearer is conducting operations external to the AC platform.	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
12	SOW 4.1. (l) The STHS communication system must be waterproof and fully functional in all climatic conditions including water spray, rainfall, high winds snow and freezing rain	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
13	SOW 4.1. (m) The STHS communication system must be fully functional after being submerged in three meters of fresh or salt water for a period of five (5) minutes.	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
14	SOW 4.1. (n) Provide a positive indication to the wearer, either sound or physical, when the retention system is engaged	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
15	SOW 4.1. (o) Material that comes into contact with SAR Tech must be such that it prevents sweating in warmer temperatures and warms quickly in colder temperatures.	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
16	SOW 4.1. (p) The STHS colour must be the high visibility international orange colour used on other SAR Tech clothing and equipment or have other means such as reflective material or lighting for high visibility	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
17	SOW 4.1. (q) It must be no greater than four (4) pounds in final configuration with all EADs if any	Does the bidder state that they comply with the requirement and provide documentation as to the weight.	
18	SOW 4.1. (r) The STHS components must be durable and able to sustain multiple user training and mission scenarios with minimum replacement of parts over its life	Does the bidder state that they comply with the requirement and component material information that supports why the equipment is durable.	
19	SOW 4.1. (s) Constructed of non-hazardous materials that do not cause skin irritation or allergic reaction to wet or dry skin and do not pose a health risk or toxic hazard to the user under normal conditions or as a result of damage to the equipment while wearing, maintaining or repairing the STHS	Does the bidder state that they comply with the requirement and provide a complete list of materials that show the materials are nonhazardous.	
20	SOW 4.1. (t) All components of the STHS must provide for ease of maintenance as to allow RCAF users	Does the bidder state that they comply with the requirement and make statement to average times to complete	

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	and technicians to carry out routine inspection and maintenance in accordance with supplier instructions.	typical maintenance activities.	
22	SOW 4.1. (v) The STHS must permit the rapid and easy removal and replacement of components by the user without the requirement for special skills or tools other than standard hand tools (i.e. screwdriver, wrench, etc.);	Does the bidder state that they comply with the requirement and provide documentation or proof in their proposal.	
23	SOW 4.1. (w) The STHS must not require special disposal procedures.	Does the bidder state that they comply with the requirement. Does the bidders list of material for the equipment contain materials that would indicate special case disposal action. I.E. Hazardous materials.	
24	SOW 4.1. (x) Must be protected against corrosion and deterioration caused by atmospheric conditions, water and airborne corrosive agents and salt water.	Does the bidder state that they comply with the requirement and provide material information that supports it.	
25	SOW 4.1.(y) The STHS must support cleaning by wipe down with mild soap and water using a cloth and/or brush	Does the bidder state that they comply with the requirement. Does there maintenance manual cover cleaning and does it support the statement.	

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PART 2 - OPERATIONAL TESTING

The following rating scale will be used Table 2 below.

- 1 – Totally unacceptable
- 2 – Unacceptable
- 3 – Slightly unacceptable
- 4 – Neutral
- 5 – Slightly acceptable
- 6 – Acceptable
- 7 – Perfectly Acceptable

Table 2: Compliance Matrix – Rated

Item #	Rated Requirement	Evaluation Criteria	Rating 1-7	Weight 01-10	Score R x W
1	Helmet fit	The helmet fits comfortably. It adjusts easily to allow wearing of balaclava, wet suit hood or bare headed. No size change required to accommodate the three different configurations. The helmet will be worn for three hour duration with removal at the 1 hour interval to go to a configuration with a balaclava and repeated with the wet suit hood.			
2	Retention	The helmet fits securely on the head and stays in place during repelling, climbing, parachuting, water entry and while swimming. Water entry will be conducted at base pool from the high diving platform. Repelling and climbing will be carried out in the local area using standard equipment techniques and procedures used in a mountain rescue training scenario. Para will be conducted from an authorized RCAF para platform performing an authorized training mission with authorized para gear.			
3	Cranial protection	Provide ample protection from direct impact by a falling			

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		object or from a fall. The helmets will be rated thorough out testing scenarios and evaluated for the area of cranial and facial coverage provided as well as any impact and shock absorbance. It will be inspected for damage such as breakthrough after any scenario where helmet contact occurred. This will be rated during multiple scenarios and results accumulated and averaged.			
4	Face and eye protection	Provides adequate protection to wearers face and eyes. Allows for unobscured visibility in bright daylight and in very low ambient light at night. Interfaces well with personal prescription eyewear. Helmet system will be rated throughout different training scenarios to rate light conditions and will be rated during para scenarios for facial and eye protection. It will be rated during hoisting operations to the ground under rotor wash conditions. Ratings will be accumulated and averaged			
5	Fitment of EADs (External Attachment Devices)	Securely accommodates EADs, as required in all operating environments (live para, hoisting, climbing/repelling and swimming) and provides retention to devices in high winds, rotor wash, in water, dense treed areas and in cold, ice and snowy conditions. EADs can be easily changed to suit various mission phases.			
6	Snagging hazard	Minimal risk of snag hazard in all operating environments. Complete helmet ensemble will be rated during Para phases and mountain rescue phases in the configuration			

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		applicable to the training mission. Snagging hazards will be evaluated documented and rated.			
7	Compatible with intercom systems and capable of ground to air transmission on UHF as well as VHF frequencies. System will remain functional after being submerged in 3 meters of water for 5 minutes.	Compatible with existing intercom systems on FW and RW aircraft and capable of transmitting during all phases of pre and post deployment over UHF and VHF frequencies with no noise reduction. Evaluation will be conducted on both rotor and fixed wing platforms during pre-deployment, post-deployment (hoist and para descent) and once on the ground and while conducting water work. The helmet system will be submerged in water for 5 minutes donned after dry testing has been conducted and functionally tested to an AC platform.			
8	Hearing protection and communications	Provides adequate hearing protection without inhibiting communications. Allows for talk through communications between rescuer and casualty. If helmet system communications solution included CEPs, the interface between the STHS and CEP must be wireless. Evaluation will be conducted on both rotor and fixed wing platforms during pre-deployment, post-deployment (hoist and para descent) and once on the ground and while conducting water work. User will carry on conversation with a simulated patient to test the talk through capability.			
9	Wireless communications	Allows for wireless communications while the wearer is operating outside of the AC platform. Evaluation will be conducted on both rotor			

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		and fixed wing platforms during pre-deployment, post-deployment (hoist and para descent) and once on the ground and while conducting water work.			
10	Operability in all environmental operating conditions	Water proof and fully functional in all climatic conditions (water spray, rainfall, high winds, freezing rain and in subzero temperature) Evaluation must be conducted in as many operating environments as reasonably possible to include boat hoisting, water hoisting and while operating under a helicopter in the hover to simulate high winds.			
11	Retention system engagement indication	Provides either sound or physical indication when retention system is engaged. System will be evaluated throughout scenarios. Results will be accumulated and averaged for a final rating.			
12	Temperature comfort	Next to skin material must prevent sweating in warmer temps and warms quickly in colder temperatures. Helmet to be worn at room temperature for 1 hour while evaluators conduct the rigors of mission equipment preparation work and rated to comfort with regards to heat. Helmet will be cold soaked in a freezer for a minimum of 5 hours. Item will be immediately donned once removed from the freezer and the SAR tech will record the time it takes for the helmet to warm to an acceptable comfort level and usability.			
13	Color, lighting and or visibility	Wearer can be easily identified from the air through color by day and illumination and reflective material by night. Evaluation will be conducted			

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		with operators on the ground wearing helmet while visibility is assessed from the air during both day and night in a variety of terrain types including water.			
14	Weight	Must not exceed 4 lbs with EADs attached, if any. EADs will be fitted to the helmet and the Helmet System will be weighed.			
15	Durability	Helmet will hold up to the rigors of the evaluation period with exposure in all operational fields without components requiring replacement. Helmets will be inspected after evaluation is complete. Damage will be recorded and scored. Any maint action required during the evaluation process will be documented and scored as to the criticality, reoccurrence and level of effort.			
16	Non-hazardous and non-irritating materials	Material does not cause irritation or allergic reaction to wearer's wet or dry skin. This will be evaluated throughout the full spectrum of testing. Any reaction will be documented and assessed.			
17	Ease of maintenance, inspection and removal and replacement of components	Parts and components can be replaced and maintenance be carried out with ease by users and maintenance technicians. Wearer must be able to remove and replace components with ease without the use of special tools other than screwdriver or wrench. Evaluator will remove and reinstall various components that have been identified as replaceable within the OEM manual and rate the level of effort required.			
18	Corrosion protection	Helmet system will be inspected for evidence of			

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		corrosion at the completion of all testing and results documented.			
19	Cranial protection	At the completion of field evaluation the helmet system will be sent to CFEME in Toronto and the helmet will be subjected to progressive testing to the requirements to meet UIAA-106 for retention Energy absorption, slippage and penetration. Equipment score will be exempt of the requirement to achieve a rating of 6. The individual scoring for each test point will be added to the achieved score of the field evaluation for the same requirement.			