

Solicitation No. - N° de l'invitation
F7048-200089/B
Client Ref. No. - N° de réf. du client
F7048-200089

Amd. No. - N° de la modif.
File No. - N° du dossier
128qfF7048-200089

Buyer ID - Id de l'acheteur
128qf
CCC No./N° CCC - FMS No./N° VME

ANNEX "E"
BID TECHNICAL EVALUATION MATRIX

TABLE E1 – TECHNICAL EVALUATION – MANDATORY REQUIREMENTS

Mandatory Requirements Evaluation
<p><i>In order for this table to be considered complete, the Bidder must respond to each of the criteria below as per the following instructions. Otherwise, it will be considered incomplete.</i></p> <p><i>The Bidder must provide proof of compliance in the column titled "Vendor Response – Proposal Reference page" as per the following instructions.</i></p> <p>1) If "specific documentation reference" is written in the "Supporting Details Required with Bid" column, any of the following are acceptable vendor responses:</p> <ul style="list-style-type: none">- A reference to a specific page number and subsection (if available) in a user manual, maintenance manual, or other similar document;- A reference to a spec sheet;- A screenshot or video showing the feature in question. This should be supplied as an additional document or file with the bid and a reference to it written in the "Vendor Response - Proposal Reference page" column;- A technical and functional specification description of the compliance which references a component's documentation to support its claims, but which may synthesize information from multiple sources as well as provide additional technical information on how the component is compliant to the requirement. This information must be understandable by an engineer or technician with experience in using or maintaining this type of equipment, otherwise it must be backed up by formal tests performed by the manufacturer. This may be supplied as an additional document or file with the bid and a reference to it written in the "Vendor Response – Proposal Reference page" column. <p>Any documents referenced must be provided with the Bidder's Offer.</p> <p>Any manual, spec sheet, or similar document submitted must be a version released by the original equipment manufacturer for distribution in its original state, i.e. they may not be modified for the sole purpose of the Offer.</p> <p>Screenshots, videos and technical descriptions may be created specifically for the purpose of the Offer.</p> <p><i>Responses to the mandatory requirements set forth in this section will be evaluated on a stringent pass or fail. Offers not meeting all of the mandatory requirements identified in the table below will be considered non-compliant and given no further consideration.</i></p>

TSOR Reference		Description of Requirement	Supporting Details Required with Bid	Vendor Response – Proposal Reference page	Compliance	
					YES	NO
TSOR - Chapter 2 PSS Specific requirements						
M1	2.1.1	The AIS PSS must be a commercial off the shelf product.	The bidder must provide specific documentation reference to support its compliance.			
M2	2.1.2	The AIS PSS must be comprised of 3 main components: a) the AIS transponder or radio; b) the controller; and c) the power supply	The bidder must provide specific documentation reference to support its compliance.			
M3	2.1.5	The AIS PSS must include two interfaces: a) The AIS Presentation Interface (PI) as defined in International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) Recommendation A-124 (see article 1.2.3) to send and receive National Marine Electronics Association (NMEA) sentences as defines in IEC standards (see article 1.2.3). b) A Human Machine Interface (HMI), either Graphical User Interface or Command Line Interface, to perform configuration, updates, monitoring and administrative tasks.	The bidder must provide specific documentation reference to support its compliance.			
M4	2.1.6	The AIS PSS and components must be compliant with the following standards: a) ITU-R M.1371-5 Technical characteristics for an automatic identification system using time-division multiple access in the VHF maritime mobile band. b) IEC-61162-1, Edition 5.0 and IEC-62320-1, Edition 2.0 and be capable of outputting NMEA sentences with TAG blocks “c” and “s” as defined in IEC-62320-1, 2nd edition. c) IALA Recommendation A-124 on The AIS Service Edition 2.1 and Appendices.	The bidder must provide specific documentation reference to support its compliance.			

TSOR Reference		Description of Requirement	Supporting Details Required with Bid	Vendor Response – Proposal Reference page	Compliance	
					YES	NO
M5	2.1.7	The AIS PSS must have a built-in self-test on power-up.	The bidder must provide specific documentation reference to support its compliance.			
M6	2.1.8	Failure of the AIS PSS equipment to output self-test statistics must be considered a fatal error and must automatically generate an alarm on the PI, using the alerting (ALR) message defined in IEC-62320-1, Edition 2.0.	The bidder must provide specific documentation reference to support its compliance.			
M7	2.1.10	The AIS PSS configuration must be stored in a non-volatile memory and the last configuration must be restored after each start or restart, planned or not.	The bidder must provide specific documentation reference to support its compliance.			
M8	2.2.1	The AIS PSS must be physically designed for mounting in a CCG supplied 19" wide rack unit, including all its components.	The bidder must provide specific documentation reference to support its compliance.			
M9	2.2.2	The AIS PSS must provide at least one RJ-45 Ethernet connector to be connected to the Operational Network which will be supplied by Canada as Government Furnished Equipment (GFE).	The bidder must provide specific documentation reference to support its compliance.			
M10	2.2.3	The AIS PSS must be available in two versions, one that supports single phase 120VAC, +10%, -15%, 60Hz +/- 1.5Hz; and one that supports -48 VDC, +25%, -10% or +12 VDC, +25%, -10%.	The bidder must provide specific documentation reference to support its compliance.			
M11	2.2.4	The AIS PSS must connect to the Global Positioning System (GPS) antenna arrangement comprising of a physical GPS antenna, cabling, filtering and protection, that will be supplied by Canada as GFE.	The bidder must provide specific documentation reference to support its compliance.			
M12	2.2.5	The AIS PSS must provide at least one connection to a GFE GPS antenna. The GPS antenna connection(s) must be with TNC female connector(s) available on the CCG AIS PSS.	The bidder must provide specific documentation reference to support its compliance.			
M13	2.2.6	The AIS PSS must configurable so that the position used for position reports messages (message 4) is surveyed and entered manually. In that configuration, the GPS signal must only be used to provide timing for the time division multiple access (TDMA) VHF Data Link (VDL) access.	The bidder must provide specific documentation reference to support its compliance.			

TSOR Reference		Description of Requirement	Supporting Details Required with Bid	Vendor Response – Proposal Reference page	Compliance	
					YES	NO
M14	2.2.7	The AIS PSS must connect to the VHF antenna arrangement comprising of a physical VHF antenna, cabling, filtering and protection, that will be supplied by Canada as GFE.	The bidder must provide specific documentation reference to support its compliance.			
M15	2.2.8	The AIS PSS must provide one connection to a VHF antenna. The VHF antenna connection must be with a type-N female connector available on the CCG AIS PSS.	The bidder must provide specific documentation reference to support its compliance.			
M16	2.2.9	The AIS PSS must operate on AIS1 (Channel 87B @ 161.975MHz) and AIS2 (Channel 88B @ 162.025 MHz) VHF channels.	The bidder must provide specific documentation reference to support its compliance.			
M17	2.2.10	The AIS PSS must have a sensitivity of at least -107dBm with a Packet Error Rate (PER) less than 20%.	The bidder must provide specific documentation reference to support its compliance.			
M18	2.2.12	The AIS PSS's transponder must have a power output of 12.5W.	The bidder must provide specific documentation reference to support its compliance.			
M19	2.2.15	The AIS PSS must comply with the radio requirements for 25 kHz Channel spacing operation given in the IEC-62320-1, Edition 2.0. However, DSC compatibility is not required	The bidder must provide specific documentation reference to support its compliance.			
M20	2.2.16	The AIS PSS must support 5 Volts GPS antennas such as Furuno GPA017S/S and Trimble bullet III or equivalents. If 5V GPS antennas are not supported by the proposed AIS PSS, a 12V GPS antenna must be included with the AIS PSS	The bidder must provide specific documentation reference to support its compliance.			
M21	2.3.2	The CCG OpNet possesses its own IP addressing scheme, naming convention, security, routing rules and Network Time Protocol infrastructure. The AIS PSS must operate using existing network services and conventions provided by the CCG OpNet	The bidder must provide specific documentation reference to support its compliance.			
M22	2.3.4	The AIS PSS Presentation Interface (PI) must be available by Ethernet for connection to the LSS via the CCG OpNet	The bidder must provide specific documentation reference to support its compliance.			

TSOR Reference		Description of Requirement	Supporting Details Required with Bid	Vendor Response – Proposal Reference page	Compliance	
					YES	NO
M23	2.3.5	The AIS PSS Ethernet connector type must be RJ-45 compliant with connectivity of at least 100Mbps	The bidder must provide specific documentation reference to support its compliance.			
M24	2.3.6	The AIS PSS Ethernet port configuration must be available via the configuration of the HMI	The bidder must provide specific documentation reference to support its compliance.			
M25	2.4.1	The AIS PSS PI must be used to send and received NMEA sentences as defined in IEC 61162 and IEC 62320	The bidder must provide specific documentation reference to support its compliance.			
M26	2.4.2	The AIS PSS PI must allow at least 5 concurrent persistent connections	The bidder must provide specific documentation reference to support its compliance.			
M27	2.4.3	The PI must be available by using the Telnet protocol on a TCP/IP port via the AIS PSS Ethernet connection	The bidder must provide specific documentation reference to support its compliance.			
M28	2.4.4	All NMEA sentences sent via the PI must include a time stamp containing the UNIX-time at which the message was received by the AIS PSS in the TAG block of the NMEA sentence as defined in IEC 62320	The bidder must provide specific documentation reference to support its compliance.			
M29	2.4.5	The AIS PSS must have a configurable unique identifier using the name of the site where the AIS PSS is located. This unique identifier must be at least 8 characters in length. It must be possible to configure the PSS such that its unique identifier is added to the TAG block of each and any NMEA sentence sent via the PI as defined in IEC 62320	The bidder must provide specific documentation reference to support its compliance.			
M30	2.4.6	The AIS PSS must perform a RESTART of both the AIS transponder and the controller upon reception of an appropriately configured IEC Control AIS Base Station (CAB) message containing its unique identifier in the TAG block as the destination as defined in IEC 62320	The bidder must provide specific documentation reference to support its compliance.			

TSOR Reference		Description of Requirement	Supporting Details Required with Bid	Vendor Response – Proposal Reference page	Compliance	
					YES	NO
M31	2.4.7	The AIS PSS restart cycle must not exceed sixty seconds from the time the station receives the CAB sentence to the time it restarts communication on the PI.	The bidder must provide specific documentation reference to support its compliance.			
M32	2.4.8	<p>The AIS PSS must comply (using the IEC standard for testing base station, IEC 62320-1) with the following general rules regarding internal processing of AIS VDL messages and PI sentences:</p> <ul style="list-style-type: none"> a. The AIS PSS must be able to receive all VDL messages; b. The AIS PSS must be able to generate and transmit any of the VDL messages 4, 6, 7, 8, 10, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25 and 26; c. The AIS PSS must not filter data. Every received VDL message must be passed to the PI as a VHF Data-Link Message (VDM) sentence with appropriately configured TAG block; d. The AIS PSS must include the feature that provides the capability to produce a VDL Signal Information sentence containing the signal strength of every received VDL message; e. Every VDM sentence received via the PI must be broadcasted on the VDL on the next available Fixed Access Time Division Multiple Access (FATDMA) reserved slot (see IEC 62320-1); f. Every Addressed Binary Message, Broadcast Binary Message and AIS Interrogation Request sentences received via the PI must be broadcasted on the VDL on the next available FATDMA reserved slot (IEC 62320-1); g. Every transmitted message on the VDL by the AIS PSS must be passed to the PI as a VHF Data-Link Own-Vessel report including a properly structured TAG block as configured; and h. The AIS PSS must include the feature that provides the capability to periodically broadcast messages 4, 17, 20, and 22 	The bidder must provide specific documentation reference to support its compliance.			
M33	2.4.9	The AIS PSS must include the feature that provides the capability to set the NMEA sentence identifier of the PI so that every sentence produced by the AIS PSS starts with AIXXX as defined in IEC 61162.	The bidder must provide specific documentation reference to support its compliance.			

TSOR Reference		Description of Requirement	Supporting Details Required with Bid	Vendor Response – Proposal Reference page	Compliance	
					YES	NO
M34	2.4.10	The AIS PSS must include the feature that provides the capability to output, autonomously and once per minute, the ALR sentence on the PI indicating the current alarm conditions. The alarm sentence must reflect all current alarm conditions and include the TAG block appropriately configured.	The bidder must provide specific documentation reference to support its compliance.			
M35	2.5.1	The AIS PSS must include an HMI to allow unit configuration. The HMI must be either a web interface or dedicated proprietary application.	The bidder must provide specific documentation reference to support its compliance.			
M36	2.5.2	The HMI must include the feature that provides the capability to configure the AIS PSS to be monitored using SNMP.	The bidder must provide specific documentation reference to support its compliance.			
M37	2.5.3	The HMI must include the feature that provides the capability to save the entire AIS PSS configuration to file and reload the configuration from file to expedite field unit replacement.	The bidder must provide specific documentation reference to support its compliance.			
M38	2.5.4	The HMI must include the feature that provides the capability of performing AIS PSS updates or upgrades remotely via the network	The bidder must provide specific documentation reference to support its compliance.			
M39	SOW 4.1.1c)	The Contractor must provide, with the bid, a written statement from the AIS PSS manufacturer, that the proposed units will be supported for a minimum duration of 10 years after the contract is awarded, and that the manufacturer maintains access to sufficient hardware manufacturing capability to provide an availability of parts for maintenance and repair for at least this period.	The bidder must provide a written statement signed from an authorized representative.			
M40		The Bidder must have two (2) AIS technology projects completed within the last five (5) years, providing project management for the deliverables of goods and services. <i>*As per Standard Instructions 2003 04, Bidder definition: "Bidder" means the person or entity (or, in the case of a joint venture, the persons or entities) submitting a bid to perform a contract for goods,</i>	The bidder must include, as a minimum, for each project submitted: <ol style="list-style-type: none"> 1. A project description 2. The name of the client 3. The date of the project 4. Details about the work performed by the 			

Solicitation No. - N° de l'invitation

F7048-200089/B

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

F7048-200089

Amd. No. - N° de la modif.

File No. - N° du dossier

128qfF7048-200089

Buyer ID - Id de l'acheteur

128qf

CCC No./N° CCC - FMS No./N° VME

TSOR Reference	Description of Requirement	Supporting Details Required with Bid	Vendor Response – Proposal Reference page	Compliance	
				YES	NO
	<i>services or both. It does not include the parent, subsidiaries or other affiliates of the Bidder, or its subcontractors. The minimum years' experience requested must not include the original equipment manufacturer experience, only the bidder experience will be evaluated.</i>	bidder on the project 5. Reference(s)			

TABLE E2 – TECHNICAL EVALUATION – POINT RATED REQUIREMENTS

POINT RATED REQUIREMENTS EVALUATION

The Bidder must fill in the cells in the “Vendor Response – Proposal Reference page” column.

This table will be considered completed no matter the quantity of cells that were filled in the column “Vendor Response – Proposal Reference page” and even if it was not submitted. If a cell is left blank, Canada will consider its corresponding requirement not to be met and the Bidder’s score for this requirement to be zero. If this table was not submitted, Canada will give all requirements in this table a score of zero.

The Bidder must fill in the “Vendor Response – Proposal Reference page” cell for an item below in order for the offer score for that item to be evaluated. To fill in the “Vendor Response – Proposal Reference page” column, the Bidder must include the following information in a cell for it to be considered filled in:

- 1) A statement on whether they meet the requirement, and to what degree (if applicable);
- 2) The number of points the Bidder expects to be awarded for their compliance. This must be based on the evaluation method as given in the “Points Weight” column. This is ONLY for a better understanding of the Bidder’s response. The final score will be determined by Canada, and this declared score does not have any impact on Canada’s decision; and
- 3) A documentation reference which substantiates the Bidder’s claim. Acceptable references are the same as those listed in the instructions in Table E1.

TSOR	Description of Requirement	Point Rating Method			Vendor Response – Proposal Reference page
		Points Weight	Max Score	Offeror Score	
TSOR - Chapter 2 PSS Specific requirements					
R1	2.2.11	The bidder will be attributed points if the PSS sensitivity exceeds the minimal requirement of 20% Packet Error Rate (PER) at –107dBm.	35 pts per dBm @ 20% PER for a maximum of 275 pts for 20% PER at – 118 dBm	275 points	
R2	2.5.5	The bidder will be attributed points if the AIS PSS HMI includes the feature that provides: <ol style="list-style-type: none"> a) the capacity to monitor real-time coverage of the station b) compute average historical coverage c) identify coverage gaps, and detect reduction in coverage. 	5 pts per feature	20 points	
R3	2.5.6	The bidder will be attributed points if the AIS PSS HMI includes the feature that provides the capacity to send predictive failure indicators via SNMP.	25 pts if included	25 points	

Solicitation No. - N° de l'invitation
 F7048-200089/B
 Client Ref. No. - N° de réf. du client
 F7048-200089

Amd. No. - N° de la modif.
 File No. - N° du dossier
 128qfF7048-200089

Buyer ID - Id de l'acheteur
 128qf
 CCC No./N° CCC - FMS No./N° VME

TSOR		Description of Requirement	Point Rating Method			Vendor Response – Proposal Reference page
R4	2.5.7	The bidder will be attributed points if the AIS PSS HMI includes advanced logging for troubleshooting broadcast of messages received on the PI (e.g. Messages received on PI, FATDMA broadcast of message received on PI, dropped messages, invalid messages, etc).	100 pts if included	100 points		
R5	2.5.8	The bidder will be attributed points if the AIS PSS HMI includes secured connections to its interfaces (https, SSH, SNMP V3, etc)	25 pts if all interfaces can be accessed using a secure protocol included	25 points		
R6		The bidder will be attributed points if the AIS PSS includes an integrated power supply that is swappable for AC or DC.	50 pts if included	50 points		
Total Maximum Points:				495		