Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

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

Revision to a Request for a Standing Offer

Révision à une demande d'offre à commandes

National Master Standing Offer (NMSO)

Offre à commandes principale et nationale (OCPN)

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

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

Comments - Commentaires

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

Issuing Office - Bureau de distribution
Marine Machinery and Services / Machineries et services maritimes
11 Laurier St. / 11, rue Laurier
6C2, Place du Portage
Gatineau
Québec
K1A 0S5

Title - Sujet
BOUÉES DE PLASTIQUE / PLASTIC BUOYS

Solicitation No. - N° de l'invitation	**Date**
FP999-130001/A	2013-07-24
Client Reference No. - N° de référence du client	**Amendment No. - N° modif.**
FP999-130001	001
File No. - N° de dossier	**CCC No./N° CCC - FMS No./N° VME**
016ml.FP999-130001	

GETS Reference No. - N° de référence de SEAG
PW-$$ML-016-23900

Date of Original Request for Standing Offer
Date de la demande de l'offre à commandes originale 2013-07-19

Solicitation Closes - L'invitation prend fin
at - à 02:00 PM
on - le 2013-09-03

Time Zone
Fuseau horaire
Eastern Daylight Saving Time EDT

Address Enquiries to: - Adresser toutes questions à:	**Buyer Id - Id de l'acheteur**
Wilkie, Neil	016ml
Telephone No. - N° de téléphone	**FAX No. - N° de FAX**
(819) 956-0704 ( )	(819) 956-0897

Delivery Required - Livraison exigée

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:

Security - Sécurité
This revision does not change the security requirements of the Offer.
Cette révision ne change pas les besoins en matière de sécurité de la présente offre.

Instructions: See Herein

Instructions: Voir aux présentes

Acknowledgement copy required	**Yes - Oui**	**No - Non**
Accusé de réception requis	☐	☐

The Offeror hereby acknowledges this revision to its Offer.
Le proposant constate, par la présente, cette révision à son offre.

Signature **Date**

Name and title of person authorized to sign on behalf of offeror. (type or print)
Nom et titre de la personne autorisée à signer au nom du proposant.
(taper ou écrire en caractères d'imprimerie)

For the Minister - Pour le Ministre

Canada

This solicitation amendment is being issued to provide French documentation that was not successfully published upon original release of the solicitation. There are no changes to the English documentation.

TABLE OF CONTENTS

List of Annexes:

PART 1 - GENERAL INFORMATION

1. Introduction

The Request for Standing Offers (RFSO) is divided into six parts plus attachments and annexes, as follows:

Part 1 General Information: provides a general description of the requirement;

Part 2 Offeror Instructions: provides the instructions applicable to the clauses and conditions of the RFSO;

Part 3 Offer Preparation Instructions: provides offerors with instructions on how to prepare their offer to address the evaluation criteria specified;

Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria which must be addressed in the offer, and the basis of selection;

Part 5 Certifications: includes the certifications to be provided;

Part 6 6A, Standing Offer, and 6B, Resulting Contract Clauses:

6A, includes the Standing Offer containing the offer from the Offeror and the applicable clauses and conditions;

6B, includes the clauses and conditions which will apply to any contract resulting from a call-up made pursuant to the Standing Offer.

The Annexes include the Statement of Work , the Basis of Payment and any other annexes.

2. Summary

2.1 Introduction

The Canadian Coast Guard has a requirement for a Medium Plastic Coast/Harbour Buoy for floating aids to navigation application for use in many parts of Canada.

These buoys are required in red, green, yellow and white as per the International Association of Lighthouse Authorities (IALA's) colour requirements (IALA, 108 E) 1.

These buoys will be mounted with a solar powered lantern and dayboards as well as tethered to a chain mooring systems. The buoy shall be capable of operating during the summer and fall months of the year in sheltered coastal water and inland rivers.

2.2 Applicable Specifications

1) Medium Plastic Coastal/Harbour Buoys - Performance Specification, 2013-06. 58-013-000-GU-GJ-001 attached as Annex "B"

2.3 Requirement

The Canadian Coast Guard (CCG) has a requirement for Medium Plastic Coast/Harbour Buoy. The Contractor must be able to provide these Buoys in any of the colours called out in the specification of paragraph 1.2 above.

The Contractor will provide CCG with buoys on an as-and-when required basis. Table 1 below provides annual estimates of the number of buoys CCG anticipates it will require. This is not a commitment by CCG to order the quantities of buoys shown but is CCG's best estimate of its future requirements. These quantities will be used for purposes of evaluating proposals.

Table 1: Estimated annual buoy quantities

Year	Category 1	Category 2
2013-2014	23	280
2014-2015	3	23

Note: The assembly of all buoy components shall be the responsibility of the OEM or representative here in Canada.

3. Security Requirement

There is no security requirement associated with the Standing Offer.

4. Debriefings

Offerors may request a debriefing on the results of the request for standing offers process. Offerors should make the request to the Standing Offer Authority within 15 working days of receipt of the results of the request for standing offers process. The debriefing may be in writing, by telephone or in person.

5 List of Proposed Subcontractors

If the offer includes the use of subcontractors, the Offeror agrees, upon request from the Standing Offer Authority, to provide a list of all subcontractors including a description of the things to be purchased, a description of the work to be performed and the location of the performance of that work. The list should not include the purchase of off-the-shelf items, software and such standard articles and materials as are ordinarily produced by manufacturers in the normal course of business, or the provision of such incidental services as might ordinarily be subcontracted in performing the Work.

PART 2 - OFFEROR INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the Request for Standing Offers (RFSO) by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual (https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) issued by Public Works and Government Services Canada.

Offerors who submit an offer agree to be bound by the instructions, clauses and conditions of the RFSO and accept the clauses and conditions of the Standing Offer and resulting contract(s).

The 2006 (2013-06-01) Standard Instructions - Request for Standing Offers - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the RFSO.

2. Submission of Offers

Offers must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the Request for Standing Offers.

3. Enquiries - Request for Standing Offers

All enquiries must be submitted in writing to the Standing Offer Authority no later than five (5) calendar days before the Request for Standing Offers (RFSO) closing date. Enquiries received after that time may not be answered.

Offerors should reference as accurately as possible the numbered item of the RFSO to which the enquiry relates. Care should be taken by offerors to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that offerors do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all offerors. Enquiries not submitted in a form that can be distributed to all offerors may not be answered by Canada.

4. Applicable Laws

The Standing Offer and any contract resulting from the Standing Offer must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Offerors may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their offer, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the offerors.

PART 3 - OFFER PREPARATION INSTRUCTIONS

1. Offer Preparation Instructions

Remark to Standing Offer Authority: If soft copies are requested, it is suggested that the same quantity be requested for both hard and soft copies.
Canada requests that offerors provide their offer in separately bound sections as follows:

Section I: Technical Offer (2 hard copies)

Section II: Financial Offer (2 hard copies)

Section III: Certifications (2 hard copies)

Prices must appear in the financial offer only. No prices must be indicated in any other section of the offer.

Canada requests that offerors follow the format instructions described below in the preparation of their offer.

(a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
(b) use a numbering system that corresponds to that of the Request for Standing Offers.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process Policy on Green Procurement

(http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html).

To assist Canada in reaching its objectives, offerors should:

1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and

2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Offer

In their technical offer, offerors should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

Section II: Financial Offer
Offerors must submit their financial offer in accordance with the "Basis of Payment detailed below". The total amount of Applicable Taxes must be shown separately.

Section III: Certifications
Offerors must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

   (a) Offers will be assessed in accordance with the entire requirement of the Request for Standing Offers including the technical and financial evaluation criteria as established in Annex C.

2. Basis of Selection

2.1 Basis of Selection - Lowest Price Per Point as detailed in Annex "C".

2.2 Multiple Standing Offers:

There is a possibility that more than one standing offer will be awarded because of timeframes for delivery. Up to a maximum of 280 buoys from Category 1 must be delivered by March 31, 2014.

The Bidder's must provide their maximum number of buoys to be produced each month.

Proportional basis:

The call-up procedures require that call-ups be issued on a proportional basis such that the highest-ranked offeror receives the largest predetermined portion of the work; the second highest-ranked offeror receives the second largest predetermined portion of the work, etc. (for example, 50 percent to the highest-ranked offer, 30 percent to the next highest-ranked offer and 20 percent to the third highest-ranked offer).

This predetermined distribution of the resulting work is also known as "collective best value". The highest-ranked standing offer represents the best value for Canada, and its offeror receives the largest portion of the work. A clear advantage in terms of distribution of expected business volume should be given to the highest-ranked offeror (for example, 20 percent or more than the next offer) and the same for the others. The determination of what constitutes a clear advantage is the responsibility of the contracting officer and may vary by commodity, service or by business case. The resultant call-ups are considered competitive and the competitive call-up authorities can be used.

Where individual standing offers are to be authorized based on the proportional basis approach, the contracting officer will inform the authorized user of his/her obligation to monitor call-up activities to ensure work is allocated in accordance with predetermined work

In addition to the above, when the intention is that multiple standing offers will be authorized for use, a condition that only those standing offers, which are within, 20 percent of the best-priced offer, will be considered.

PART 5 - CERTIFICATIONS

Offerors must provide the required certifications and related documentation to be issued a standing offer. Canada will declare an offer non-responsive if the required certifications and related documentation are not completed and submitted as requested.

Compliance with the certifications offerors provide to Canada is subject to verification by Canada during the offer evaluation period (before issuance of a standing offer) and after issuance of a standing offer. The Standing Offer Authority will have the right to ask for additional information to verify offerors' compliance with the certifications before issuance of a standing offer. The offer will be declared non-responsive if any certification made by the Offeror is untrue, whether made knowingly or unknowingly. Failure to comply with the certifications, to provide the related documentation or to comply with the request of the Standing Offer Authority for additional information will also render the offer non-responsive.

1. Mandatory Certifications Required Precedent to Issuance of a Standing Offer

1.1 Code of Conduct and Certifications - Related documentation

By submitting an offer, the Offeror certifies that the Offeror and its affiliates are in compliance with the provisions as stated in Section 01 Code of Conduct and Certifications - Offer of Standard Instructions 2006 . The related documentation therein required will assist Canada in confirming that the certifications are true.

2. Additional Certifications Precedent to Issuance of a Standing Offer

The certifications listed below should be completed and submitted with the offer, but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the Standing Offer Authority will so inform the Offeror and provide the Offeror with a time frame within which to meet the requirement. Failure to comply with the request of the Standing Offer Authority and meet the requirement within that time period will render the offer non-responsive.

2.1 Federal Contractors Program - Certification

.The Federal Contractors Program (FCP) requires that some suppliers, including a supplier who is a member of a joint venture, bidding for federal government contracts, valued at $200,000 or more (including Applicable Taxes), make a formal commitment to implement employment

equity. This is a condition precedent to the issuance of a standing offer. If the Offeror, or, if the Offeror is a joint venture and if any member of the joint venture, is subject to the FCP, evidence of its commitment must be provided before the issuance of a standing offer.

Suppliers who have been declared ineligible contractors by Human Resources and Skills Development Canada (HRSDC) are no longer eligible to receive government contracts over the threshold for solicitation of bids as set out in the Government Contracts Regulations. Suppliers may be declared ineligible contractors either as a result of a finding of non-compliance by HRSDC, or following their voluntary withdrawal from the FCP for a reason other than the reduction of their workforce to less than 100 employees. Any offers from ineligible contractors, including an offer from a joint venture that has a member who is an ineligible contractor, will be declared non-responsive.

If the Offeror does not fall within the exceptions enumerated in 3.(a) or (b) below, or does not have a valid certificate number confirming its adherence to the FCP, the Offeror must fax (819-953-8768) a copy of the signed form LAB 1168, Certificate of Commitment to Implement Employment Equity, to the Labour Branch of HRSDC.

The Offeror, or, if the Offeror is a joint venture the member of the joint venture, certifies its status with the FCP, as follows:

The Offeror or the member of the joint venture

A. ( ) is not subject to the FCP, having a workforce of less than 100 full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada;

B. ( ) is not subject to the FCP, being a regulated employer under the Employment Equity Act, S.C. 1995, c. 44;

C. ( ) is subject to the requirements of the FCP, having a workforce of 100 or more full- time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada, but has not previously obtained a certificate number from HRSDC (having not bid on requirements of $200,000 or more), in which case a duly signed certificate of commitment is attached;

D. ( ) is subject to FCP, and has a valid certificate number as follows: _____ (e.g. has not been declared an ineligible contractor by HRSDC).

Further information on the FCP is available on the HRSDC Web site.

PART 6 - STANDING OFFER AND RESULTING CONTRACT CLAUSES

A. STANDING OFFER

1. Offer

1.1 The Offeror offers to fulfill the requirement in accordance with the Statement of Work at Annex "A".

1.2 Unit price in Canadian Dollars, all taxes included, FOB: Quebec City Quebec

Year	Category 1	Unit Price	Category 2	Unit Price
2013-2014	23	$_____	280	$_____
2014-2015	3	$_____	23	$_____

2. Security Requirement

There is no security requirement applicable to this Standing Offer.

3. Standard Clauses and Conditions

All clauses and conditions identified in the Standing Offer and resulting contract(s) by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual (https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) issued by Public Works and Government Services Canada.

3.1 General Conditions

2005 (2012-11-19) General Conditions - Standing Offers - Goods or Services, apply to and form part of the Standing Offer.

3.2 Standing Offers Reporting

The Offeror must compile and maintain records on its provision of goods, services or both to the federal government under contracts resulting from the Standing Offer. This data must include all purchases.

The Offeror must provide this data in accordance with the reporting requirements detailed in herein. If some data is not available, the reason must be indicated. If no goods or services are provided during a given period, the Offeror must still provide a "nil" report.

The data must be submitted on a "quarterly basis" to the Standing Offer Authority.

The quarterly reporting periods are defined as follows:

1st quarter: April 1 to June 30;

2nd quarter: July 1 to September 30;

3rd quarter: October 1 to December 31;

4th quarter: January 1 to March 31.

The data must be submitted to the Standing Offer Authority no later than (15) calendar days after the end of the reporting period.

4. Term of Standing Offer

4.1 Period of the Standing Offer

The period for making call-ups against the Standing Offer is from October 1, 2013 to March 31, 2015.

5. Authorities

5.1 Standing Offer Authority

The Standing Offer Authority is:

Neil Wilkie
Supply Team Leader
Public Works and Government Services Canada
Machinery & Logistics Support Division
Portage III - Floor: 6C2 - Room: 52
11 Laurier Street
Gatineau, Quebec K1A 1C9
Canada

Telephone : 819-956-0704
Fax : 819-956-0897
E-mail : neil.wilkie@tpsgc-pwgsc.gc.ca

The Standing Offer Authority is responsible for the establishment of the Standing Offer, its administration and its revision, if applicable. Upon the making of a call-up, as Contracting Authority, he is responsible for any contractual issues relating to individual call-ups made against the Standing Offer by any Identified User.

5.2 Project Authority

The Project Authority for the Standing Offer is:

Garret Furlong
Project Manager
Fisheries and Oceans Canada
Electronics and Informatics
- Floor: 7 - Room: 7S032
200 Kent Street

Mail Stop: 7S036

Ottawa, Ontario K1A 0E6
Canada

Telephone : 613-993-3416

Fax : 613-998-9258

Email: Garret.Furlong@dfo-mpo.gc.ca

The Project Authority is the representative of the department or agency for whom the Work will be carried out pursuant to a call-up under the Standing Offer and is responsible for all the technical content of the Work under the resulting Contract.

5.3 Technical Authority

The Technical Authority for the Standing Offer is:

Tony Maso
Dept. of Fisheries and Oceans Canada
Senior Mechanical Engineer
Technical Specialist, ASD-ATON
Integrated Technical Support,
Canadian Coast Guard / 7W0116

200 Kent Street
Ottawa,Canada
K1A 0E6

Phone - (613) 991-0187
Fax: 613.993.3519
Email: Tony.Maso@dfo-mpo.gc.ca

The Technical Authority named above is the representative of the department or agency for whom the Work is being carried out under the Standing Offer and is responsible for all matters concerning the technical content of the Work under the Standing Offer. Technical matters may be discussed with the Technical Authority, however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

5.3 Offeror's Representative
(Fill in or delete, as applicable).

6. Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a Public Service Superannuation Act (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with Contracting Policy Notice: 2012-2 of the Treasury Board Secretariat of Canada.

7. Identified Users

This standing offer shall be managed from the CCG National Headquarters in Ottawa and shall be accessable by all Regions on as required basis upon approval from the CCG Technical Authority.

8. Call-up Procedures

The identified user will issue a call-up against a standing offer each time goods/services are required.

9. Call-up Instrument

The Work will be authorized or confirmed by the Identified User(s) using form .
PWGSC-TPSGC 942, Call-up Against a Standing Offer, (etc.) or an electronic version.

10. Limitation of Call-ups

Individual call-ups against the Standing Offer must not exceed $100,000.00 (Applicable Taxes included).

The minimum call-up made on this standing offer will be the equivelant of a 20 foot container.

11. Financial Limitation

The total cost to Canada resulting from call ups against the Standing Offer must not exceed the sum of $_____ (Applicable Taxes excluded) unless otherwise authorized in writing by the Standing Offer Authority. The Offeror must not perform any work or services or supply any articles in response to call ups which would cause the total cost to Canada to exceed the said sum, unless an increase is so authorized.

The Offeror must notify the Standing Offer Authority as to the adequacy of this sum when 75 percent of this amount has been committed, or _____ months before the expiry date of the Standing Offer, whichever comes first. However, if at any time, the Offeror considers that the said sum may be exceeded, the Offeror must promptly notify the Standing Offer Authority.

12. Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

a) the call up against the Standing Offer, including any annexes;
b) the articles of the Standing Offer;
c) the general conditions 2005 _____ (insert date), General Conditions - Standing Offers - Goods or Services
d) the general conditions _____ ; (insert number, date and title of the general conditions that will apply to the contract)
e) Annex A, Statement of Work ;
f) Annex B, Performance Specification;
g) Annex C, Evaluation Framework;
h) the Offeror's offer dated _____ (insert date of offer), (if the offer was clarified or amended, insert at the time of issuance of the offer: "as clarified on_____" or "as amended on _____" and insert date(s) of clarification(s) or amendment(s) if applicable).

13. Certifications

13.1 Compliance

Compliance with the certifications and related documentation provided by the Offeror is a condition of authorization of the Standing Offer and subject to verification by Canada during the term of the Standing Offer and of any resulting contract that would continue beyond the period of the Standing Offer. In the event that the Offeror does not comply with any certification, provide the related documentation or if it is determined that any certification made by the Offeror in its offer is untrue, whether made knowingly or unknowingly, Canada has the right to terminate any resulting contract for default and set aside the Standing Offer.

14. Applicable Laws

The Standing Offer and any contract resulting from the Standing Offer must be interpreted and governed, and the relations between the parties determined, by the laws in force in _____. (Insert the name of the province or territory as specified by the offeror in its offer, if applicable).

B. RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from a call-up against the Standing Offer.

1. Statement of Work

The Contractor must provide the items detailed in the call-up against the Standing Offer.

2. Standard Clauses and Conditions

2.1 General Conditions

2010A (2013-04-25), General Conditions - Goods (Medium Complexity) apply to and form part of the Contract.

2.2 Warranty

The Manufacturer shall provide a minimum of six (6) years full replacement warranty including shipping costs to original delivery point. The warranty period will begin on the date the equipment is received by the purchaser.

Items returned under warranty shall be the subject of detailed failure reports produced by the Manufacturer. Individual failure report shall submitted by the Manufacturer to the Office of Primary Interest (OPI) identified herein, for review, within thirty (30) days of receipt of each defective product.

3. Term of Contract

3.1 Delivery Date

Units shall be delivered within thirty (30) days of the Call-up against the Standing Offer. CCG shall respect a minimum order of quantity ten (10) units per call-up of mixed colours. Delivery shall be F.O.B. the destination indicated in the Call-up.

4. Quality Assurance

The Contractor is responsible for implementing a quality control system appropriate to the scope of the work to be performed. It is recommended that the quality control system be based on ISO 9001: 2008- "Quality Management Systems".

If the Contractor is registered to ISO 9001:2008, a copy of the QA Registration Certificate shall be submitted to the Technical Authority with the proposal

The Contractor is responsible for performing or having performed all inspections and tests necessary to substantiate that the material or services provided conform to all drawings or specifications and the requirements of the contract and standing offer. The Contractor must keep accurate and complete inspection records which upon request must be made available to the CCG Technical Authority (and or his/her delegated representative) as well as the PWGSC Contracting Authority (and or his/her delegated representative).

As a condition of the Contract, Canada will also require that a spot check process be implemented whereby the CCG Technical Authority and PWGSC Contracting Authority will be notified of the appropriate buoy production run and invited to witness the Contractors quality control system in action. The Contractor will provide to Canada before contract award their quality control system plan and corresponding checklist to be used by Canada during the spot check process.

5. Configuration Control

All buoys are subject to stringent configuration control requirements to be established and maintained by the manufacturer.

The configuration of each buoy shall be readily traceable to the relevant specification and revision level at time of acquisition. This constitutes the baseline information.

Each buoy subjected to a configuration change shall cause the manufacturer to update the configuration control list to ensure that the buoy updated configuration is readily traceable to the new relevant specification, revision level or modification update. This constitutes the updated baseline information.

Upon request, the manufacturer shall provide the up-to-date master configuration control list to the Technical Authority. The control list shall be supplied in Excel format.

6. Payment

6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a _____ (insert "firm price" OR "firm unit price(s OR "firm lot price(s)", as specified in _____ insert "contract" OR "in Annex ___ "for a cost of $ _____ insert the amount at contract award). Customs duties are _____ (insert "included", "excluded" OR "subject to exemption") and Applicable Taxes are extra.

6.2 Limitation of Price

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

6.3 Multiple Payment

Canada will pay the Contractor upon completion and delivery of units in accordance with the payment provisions of the Contract if:

a.an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;

b.all such documents have been verified by Canada;

c.the Work delivered has been accepted by Canada.

7. Invoicing Instructions

The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

Instruction to contracting officers: Use the following paragraph when invoices must be accompanied by supporting documents. The documents listed are examples only and must be revised to reflect the requirement. Delete this paragraph if no supporting documents are required.

Each invoice must be supported by:

- a copy of time sheets to support the time claimed;
- a copy of the release document and any other documents as specified in the Contract;
- a copy of the invoices, receipts, vouchers for all direct expenses, and all travel and living expenses;
- a copy of the monthly progress report.

Invoices must be distributed as follows:

The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.

8. Insurance

The Contractor is responsible for deciding if insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any insurance acquired or maintained by the Contractor is at its own expense and for its own benefit and protection. It does not release the Contractor from or reduce its liability under the Contract.

9. Shipping and Packaging

Units shall be individually wrapped in opaque plastic capable of withstanding normal shipping hazards, in addition to being suitable for long term storage (1 year).

Packaging shall have outer labels containing the following information:

1) Equipment designation;
2) Model number and descriptor;
3) Colour

ANNEX "A"

Statement of Requirement

See attachment Statement of Work for "Medium Plastic Coastal/Harbour Buoy, Canadian Coast Guard # 58-013-000-EK-SW-007.

Annex "B"

Specification for Medium Plastic Coastal/Harbour Buoys

See attachment "Medium Plastic Coastal/Harbour Buoys by the Canadian Coast Guard Performance Specification - 58-013-000-GU-GJ-001.

Annex "C"

Evaluation Framework for Medium Plastic Coastal/Harbour Buoys

See attachment "Medium Plastic Coastal/Harbour Buoys by the Canadian Coast Guard Evaluation Framework - 58-013-000-GA-EP-001.

Fisheries and Oceans Canada | Pêches et Océans Canada

Canadian Coast Guard | Garde côtière canadienne

58-013-000-EK-SW-001

ANNEX "A"

Medium Plastic Coastal/Harbour Buoy

Canadian Coast Guard

Statement of Work

Canada

Document Management

1. Authority

This document is issued by the Director General, Integrated Technical Services, CCG's National Technical Authority under delegation from the Deputy Minister, Fisheries and Oceans and the Commissioner of the Canadian Coast Guard.

1. Responsibility

a) Director, MCI & ER (ITS) is responsible for:

i) the creation and promulgation of the document; and

ii) the identification of an Office of Primary Interest (OPI) who is responsible for the coordination and the content of the document.

b) The OPI is responsible for:

iii) the validity and accuracy of the content;

iv) the availability of this information;

v) the update as needed;

vi) the periodical revision; and

vii) the follow-up of all requests, comments and/or suggestions received by the originator.

2. Inquiries and/or Revision Requests

All inquiries regarding this document, including suggestions for revision and requests for interpretation shall be addressed to:

Position Title: Manager, Maritime and Civil Infrastructure
Address: 200 Kent, Street, 7W064
Ottawa, ON
K1A 0E6

All requests should:

viii) be clear and concise; and

ix) reference the specific Chapter, Section, Figure or Table..

Chapter 1 GENERAL

1.1 INTRODUCTION

The Canadian Coast Guard has a requirement for a Medium Plastic Coast/Harbour Buoy for floating aids to navigation application for use in many parts of Canada.
These buoys are required in red, green, yellow and white as per IALA's colour requirements (IALA, 108 E).
These buoys will be mounted with a solar powered lantern and dayboards as well as tethered to a chain mooring systems. The buoy shall be capable of operating during the summer and fall months of the year in sheltered coastal water and inland rivers.

1.2 SPECIFICATIONS

The buoys shall meet the requirements of the following DFO-MPO specified documents:

1) Medium Plastic Coastal/Harbour Buoys – Request for Standing Offer; 58-013-000-GA-GA-001 and

2) Medium Plastic Coastal/Harbour Buoys – Performance Specification, 2013-06. 58-013-000-GU-GJ-001 and

3) Medium Plastic Coastal/Harbour Buoys – Evaluation Framework, 2013-06. 58-013-000-GA-EP-001

Chapter 2 SCOPE OF WORK

2.1 REQUIREMENTS

The Canadian Coast Guard (CCG) has a requirement for Medium Plastic Coast/Harbour Buoy. The Contractor must be able to provide these Buoys in any of the colours called out in the specification of paragraph 1.2 above.

The Contractor will provide CCG with buoys on an as-and-when required basis. Table 1 below provides annual estimates of the number of buoys CCG anticipates it will require. This is not a commitment by CCG to order the quantities of buoys shown but is CCG's best estimate of its future requirements. These quantities will be used for purposes of evaluating proposals.

2.2 QUANTITIES

Table 1 below shows the CCG's estimates of annual requirement for this buoy excluding spares.

Table 1: Estimated annual buoy quantities

Year	Category 1	Category 2
2013-2014	23	280
2014-2015	3	23

2.3 TESTING AND VERIFICATION

Bidders are required to demonstrate that the proposed buoy meets the requirements of the Performance Specifications. The proposals will be evaluated, and ranked in order of best value to the government, in accordance with the evaluation framework published in the Request for Standing Offer (RFSO).

2.4 DOCUMENTATION

The following documents shall be provided in the format, quantity, frequency and using the software identified below. The documents shall be of commercial quality acceptable to the OPI identified in this specification. The media will be specified at time of placing an order under the award of the Standing Offer.

2.4.1 Installation Instructions

Format: Microsoft Word, PDF or HTML

Quantity: One set per type of product and per delivery point identified on the order.

Frequency: Upon request at time of placing an order.

Media: Disk (CD or DVD) or hard copy (8.5" by 11"). Media type will be selected at time of order.

2.4.2 Handling and Storage Instructions

Format: Microsoft Word, PDF or HTML

Quantity: One set per type of product and per delivery point identified on the order.

Frequency: Upon request at time of placing an order.

Media: Disk (CD or DVD) or hard copy (8.5" by 11"). Media type will be selected at time of order.

2.4.3 Maintenance Manual

Format: Microsoft Word, PDF or HTML

Quantity: One set per type of product and per delivery point identified on the order.

Frequency:	Upon request at time of placing an order.
Media:	Disk (CD or DVD) or hard copy (8.5" by 11"). Media type will be selected at time of order.

2.4.4 List of Repairable Items

One (1) paper copy and one electronic copy of the list of Repairable Items shall be submitted with the proposal. The list shall be kept current and copies of any amendment shall be provided within 15 calendar days of any changes made to the list during the period of the Standing Offer.

2.4.5 Recommended List of Spare Parts

A priced Recommended List of Spare Parts (RLSP) shall be provided with the proposal. The list shall contain all repairable and consumable items in the quantities required to support the buoy for the period of its service life. Unit prices as well as the total price for the list shall be provided.

2.5 QUALITY ASSURANCE

The Contractor is responsible for implementing a quality control system appropriate to the scope of the work to be performed. It is recommended that the quality control system be based on ISO 9001: 2008- "Quality Management Systems".

If the Bidder is registered to ISO 9001:2008, a copy of the QA Registration Certificate shall be submitted to the Technical Authority with the proposal

The Contractor is responsible for performing or having performed all inspections and tests necessary to substantiate that the material or services provided conform to all drawings or specifications and the requirements of the contract and standing offer. The Contractor must keep accurate and complete inspection records which upon request must be made available to the CCG Technical Authority (and or his/her delegated representative) as well as the PWGSC Contracting Authority (and or his/her delegated representative).

As a condition of the Contract, Canada will also require that a spot check process be implemented whereby the CCG Technical Authority and PWGSC Contracting Authority will be notified of the appropriate buoy production run and invited to witness the Contractors quality control system in action. The Contractor will provide to Canada before contract award their quality control system plan and corresponding checklist to be used by Canada during the spot check process.

2.6 CONFIGURATION CONTROL

All buoys are subject to stringent configuration control requirements to be established and maintained by the manufacturer.

The configuration of each buoy shall be readily traceable to the relevant specification and revision level at time of acquisition. This constitutes the baseline information.

Each buoy subjected to a configuration change shall cause the manufacturer to update the configuration control list to ensure that the buoy updated configuration is readily traceable to the new relevant specification, revision level or modification update. This constitutes the updated baseline information.

Upon request, the manufacturer shall provide the up-to-date master configuration control list to the OPI identified in this specification. The control list shall be supplied in Excel format.

2.7 IN-SERVICE SUPPORT

CCG reserves the right to order any spare parts at the prices shown in the RLSP, in any quantity, on an as-and-when required basis, during the period of the Standing Offer.

The Contractor will be required to provide in-factory support for repairs, as and when required, during the service life of the buoy. When requested to do so, the Contactor shall provide a proposal for repairs. The costs for the work shall be in accordance with Contract Cost Principles of DSS 1031-2 and the level of profit shall be in accordance with the Government's Profit Policy.

2.8 SHIPPING AND PACKAGING

Units shall be individually wrapped in opaque plastic capable of withstanding normal shipping hazards, in addition to being suitable for long term storage (1 year).

Packaging shall have outer labels containing the following information:

1) Equipment designation;
2) Model number and descriptor;
3) Colour

2.9 DELIVERY

The Bidders are required to confirm with their proposals, their capacity to supply within thirty (30) days of placing Call-ups against the Standing Offer. CCG shall respect a minimum order of quantity ten (10) units per call-up. Delivery shall be F.O.B.destination indicated in the Call-up.

2.10 POST-DELIVERY

The assembly of all buoy components shall be the responsibility of the OEM or representative here in Canada.

2.11 WARRANTY

The Manufacturer shall provide a minimum of six (6) years full replacement warranty including shipping costs to original delivery point. The warranty period will begin on the date the equipment is received by the purchaser.

Items returned under warranty shall be the subject of detailed failure reports produced by the Manufacturer. Individual failure report shall submitted by the Manufacturer to the Office of Primary Interest (OPI) identified herein, for review, within thirty (30) days of receipt of each defective product.

2.12 DISPOSAL

The Manufacturer is advised that all ordered units that are of no further use to CCG will be returned by the Manufacturer to the nearest Canadian depot for recycling and/or disposal.

Fisheries and Oceans Canada | Pêches et Océans Canada
Canadian Coast Guard | Garde côtière canadienne

58-013-000-GU-GJ-001

ANNEX "B"

Medium Plastic Coastal/Harbour Buoys

SALUTI PRIMUM AUXILIO SEMPER

Canadian Coast Guard

Performance Specification

Canada

Table of Contents

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Document Management

1. Authority

This document is issued by the Director General, Integrated Technical Services, CCG's National Technical Authority under delegation from the Deputy Minister, Fisheries and Oceans and the Commissioner of the Canadian Coast Guard.

2. Responsibility

a) Director, MCI & ER (ITS) is responsible for:

i) the creation and promulgation of the document; and

ii) the identification of an Office of Primary Interest (OPI) who is responsible for the coordination and the content of the document.

b) The OPI is responsible for:

i) the validity and accuracy of the content;

ii) the availability of this information;

iii) the update as needed;

iv) the periodical revision; and

v) the follow-up of all requests, comments and/or suggestions received by the originator.

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Ottawa, ON
K1A 0E6

All requests should:

i) be clear and concise; and

ii) reference the specific Chapter, Section, Figure or Table.

Foreword

1. Scope

This specification states the requirements for the Canadian Coast Guard's '*Commercial- **Off The Shelf***' (COTS) plastic replacement for its medium coastal / harbour steel buoys for marine navigational purposes.

The buoys shall be capable of displaying all existing standard Canadian Coast Guard (CCG) characteristics for marine aids-to-navigation as described in Table 1-5 reference [21].

In keeping with the CCG's concept of extending the service cycle for buoys, the goal for periodic service is a 5-year schedule.

Chapter 1 GENERAL

1.1 PRIORITY OF DOCUMENTS

In the event of any conflict in documents or drawings associated with ordering requirements, the following order of priorities shall prevail:

c) the contract;

d) the specification; and

e) the drawings.

In the event of any conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been made.

1.2 REFERENCE DOCUMENTS

Some of the documents listed in this section are to be referenced to Chapter 2 and Chapter 3 of this specification. This section does not include documents cited in other sections of this specification recommended for additional information or as examples. While every effort has been made to ensure completeness of the list, document users are cautioned that they must meet all specified requirements cited in Chapter 2 and Chapter 3 of this specification.

Table 1-1: Referenced Standards and Tests for Plastic

1.	ASTM D4020	Standard Specification for Ultra-High-Molecular-Weight Polyethylene Molding and Extrusion Materials ASTM http://www.astm.org
2.	MIL-P-21929C(1)	Plastic Material, Cellular Polyurethane, Foam in Place, Rigid Void Filler, Foam-in-place Large scale and installation of (10 Feb 1967) Military Standards Website; http://www.mil-standards.com/
3.	ASTM D3575-1993	Flexible Cellular Materials Made from Olefin Polymers (IONOMER) ASTM Website: http://www.astm.org
4.	ASTM D2341	Standard Specification for Rigid Urethane Foam ASTM Website: http://www.astm.org
5.	ASTM D4976-00b	Standard Specification for Polyethylene Plastics Moulding and Extrusion Materials ASTM Website: http://www.astm.org
6.	ASTM D3935-94	Standard Specification for Polycarbonate (PC) Unfilled and Reinforced Material

		ASTM Website: http://www.astm.org
7.	ISO 9532	Standard Specification for the Abrasion Properties of Rigid Plastics

Table 1-2: Referenced Standards for Metals

8.	ASTM A36	Standard Specification for Structural Steel. ASTM Website: http://www.astm.org
9.	ASTM A666	Annealed or Cold Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar. ASTM Website: http://www.astm.org
10.	ASTM A276	Standard Specification for Austenitic Stainless Sheet, Strip, Plate, and Flat Bar Pressure Vessels. ASTM Website: http://www.astm.org
11.	ASTM B209	Aluminium and Aluminium-Alloy Sheet and Plate ASTM Website: http://www.astm.org
12.	ASTM B221	Aluminium and Aluminium-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes ASTM Website: http://www.astm.org

Table 1-3: Referenced Standards for Concrete

13.	CAN/CSA –A23.1	Concrete Materials and Methods of Concrete Construction CSA Standards Website: http://www.csa.ca/
14.	ASTM C33	Standard Specification for Concrete Aggregates ASTM Website: http://www.astm.org
15.	ASTM C150	Standard Specification for Portland Cement ASTM Website: http://www.astm.org

Table 1-4: Referenced Standards for Colour

16.	IALA E-108	Recommendations for the surface colours used as visual signals on aids to navigation. IALA Website: http://site.ialathree.org/
17.	ASTM D2244	Calculation of Colour Differences ASTM Website: http://www.astm.org
18.	ASTM D2565	Standard Practice for Operating Xenon ARC-Type Light-Exposure with and without water for Exposure of Plastics ASTM Website: http://www.astm.org
19.	FED-STBD-595B	U.S. Federal Standard, Colours used in Government Procurement
20.	IALA V-128	Technical Performance Requirements for VTS Equipment IALA Website: http://site.ialathree.org/.

Table 1-5: Miscellaneous Departmental Publications

21.	TP-968 E/F	The Canadian Aids to Navigation System. (Revised 2011) http://www.ccg-gcc.gc.ca/folios/00020/docs/CanadianAidsNavigationSystem2011-eng.pdf

1.3 SOURCE OF DOCUMENTS

Documents may be obtained from the following sources:

1.3.1 Canadian Government Documents

TP 968 E/F	Aids to Navigation Program Canadian Coast Guard Fisheries and Oceans Canada Ottawa, ON. K1A 0E6 Cat. No. T31-29/2012E-PDF ISBN 978-1-100-15842-6 MPO/2012-1704
Canadian General Standards Board (CGSB)	CGSB Sales Centre Place du Portage III - 6B1, 11 Laurier Street, Hull, (Quebec) K1A 1G6

1.3.2 U.S. Government Documents

Standardization Documents Order Desk
Building 4, Section D
700 Robins Avenue
Philadelphia, PA 19111-5094

1.3.3 Industry Documents

Canadian Standards Association (CSA)
5060 Spectrum Way, Suite 100
Mississauga, Ontario L4W 5N6

International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA)
20 Rue Schnapper
78100 St Germain-en-Laye
France

American Society for Testing and Materials (ASTM)
1916 Race Street
Philadelphia, PA 19103-1187

Society of Automotive Engineers (SAE)
400 Commonwealth Dr.
Warendale, PA 15096

1.3.4 Definitions

Table 1-1: Definitions: General

Draft	The vertical distance between the waterline and the bottom most part of the buoy, usually expressed in meters. Maximum draft is obtained when the *Reserve Buoyancy* is zero. (See Figure 1-1).
Operational Surcharge Load	Sum of all loads incurred in service, i.e. marine growth and ice accumulation. Maximum values to be used for design are defined in Annex A for each buoy type.
Operational Reserve Buoyancy (Rb)	Defined as amount of internal buoyancy between minimum and maximum design waterline levels or mooring weight conditions.
Plastic	Synthetic organic polymer material capable of being moulded, formed, extruded, or cast into various shapes.
Safe Working Load (SWL)	The SWL is the maximum design load for the life of the item, with a value of 20% of breaking strength.
Survival Environmental Conditions	Environmental conditions over and above the performance requirements such that the buoy is capable of functioning once operational conditions return without significant damage.
Visible Height	The vertical distance from the waterline to the top of the buoy (See Figure 1-1). *Maximum Visible Height* is achieved when the minimum mooring weight is used. *Minimum Visible Height* is achieved when the recommended maximum mooring weight is used.
Waterline	The line of water along the buoy hull when deployed located between the minimum to maximum limits (See Figure 1-1).

Table 1-2: Definitions: Hardware

Handling Lug	An attachment point above the water line that may be part of or separate from the buoy hull, and facilitates buoy handling activities.
Lifting Lug	An attachment point above the water line rated to lift the maximum buoy and mooring assembly loads as defined in Section 2.3.3.1.1.
Mooring Lug	An attachment point below the water line, to which the mooring is connected, rated to lift the maximum buoy and mooring assembly loads as defined in Section 2.3.3.1.1.
Lifting Assembly	The lifting assembly is composed of the *Lifting Lug(s)*, the *Mooring Lug*, and a mechanical linkage connecting the two or more components. The full assembly is rated to lift the maximum loads as defined in Section 2.3.3.1.1.

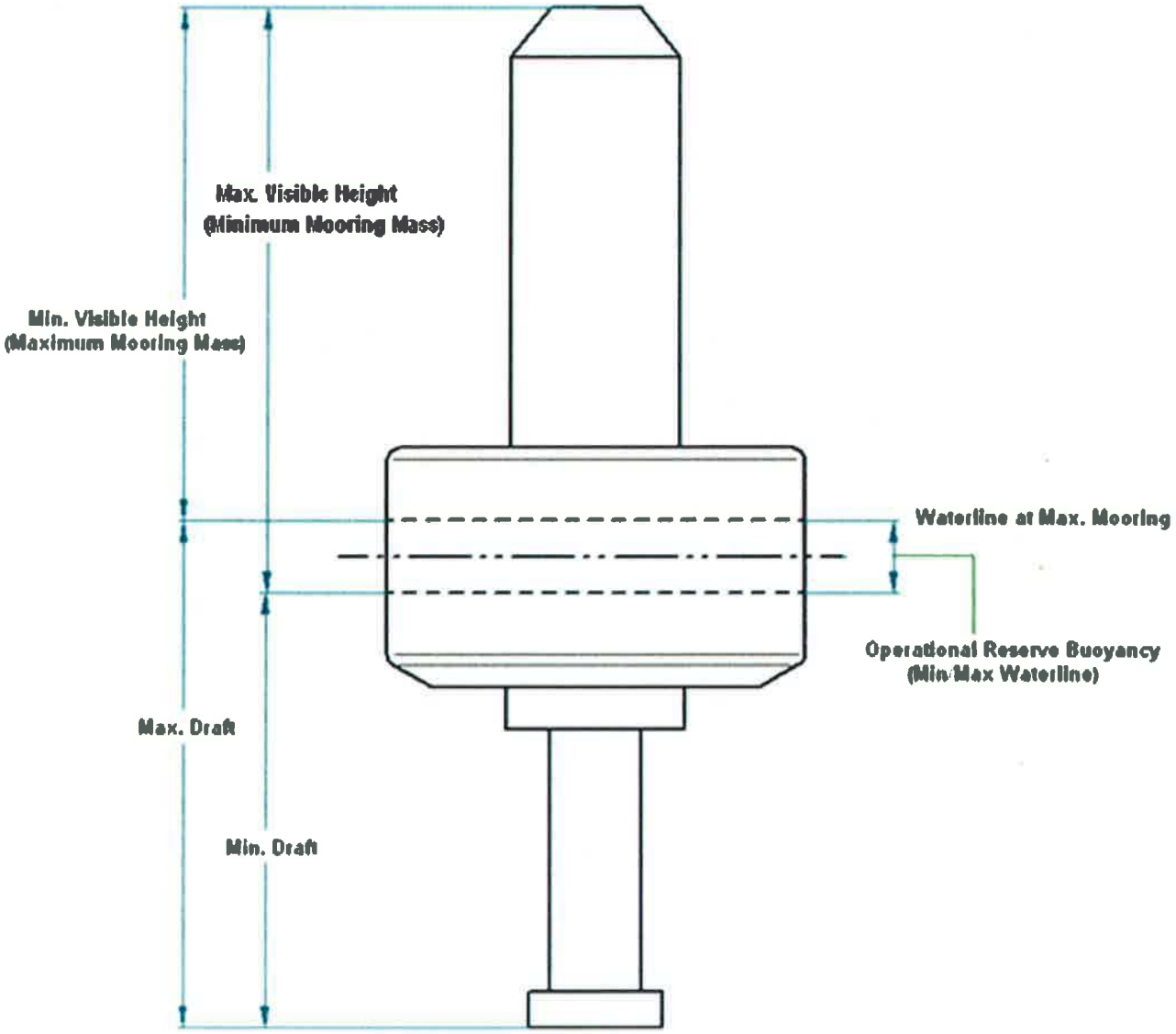

Figure 1-1: Buoy Terminology

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Chapter 2 PERFORMANCE REQUIREMENTS

2.1 GENERAL

The buoy hull shall be made of lightweight, buoyant and durable materials. The buoy shall be water tight and capable of unattended operation for 5 years and require no preventive maintenance, other than periodic cleaning of external surfaces. If a tower mast atop of the hull is provided it too shall be made of durable materials. The buoy shall be resistant to degradation in their operating, deployment, retrieval and storage environments including exposure to the elements.

2.1.1 Buoy Categories

To satisfy the various operational requirements of the Canadian Coast Guard two different buoy categories will be required as defined in detail in Annex A of this specification.

2.2 OPERATIONAL REQUIREMENTS

The buoys shall meet the requirements of this section.

2.2.1 Areas of Operation

The buoys that will be deployed in Canadian Navigational Waters are principally used in rivers, sheltered waters and partially protected waters.

2.2.2 Environmental Conditions

The buoys **shall** either operate in or survive the following environmental conditions and those listed in Annex A. The operational conditions are considered when assessing a buoy's ability to function as and aid to navigation. The survival conditions are used to establish pre-failure limitations.

2.2.2.1 Water Temperature

The buoys will operate in and survive exposure to water temperatures of -2-°C to +30°C.

2.2.2.2 Air Temperature

The buoys will operate in and survive exposure to air temperatures of -40-°C to +40°C.

2.2.2.3 Water Types

The buoys will withstand exposure of continuous fresh, or saline or brackish waters for the duration of the life cycle expectancy of the buoy as defined in Section 2.2.4.

2.2.2.4 Operational Wind Speed

The buoys will operate in wind speeds as listed in Annex A.

2.2.2.5 Survival Wind Speed

The buoys will survive the wind speeds listed in Annex A.

2.2.2.6 Maximum Operational Wave Height

The buoys will operate in a wavy environment, as described in Annex A-.

2.2.2.7 Operational Current Speed

The buoys will operate in water currents listed in Annex A.

2.2.2.8 Survival Current Speed

The buoys will survive the current speeds listed in Annex A.

2.2.2.9 Maximum Buoy Tilt Angle at Maximum current

At maximum operational current (listed in Annex A), the buoys will show a tilt angle equal or less than **6°**.

2.2.2.10 Humidity

The buoys will withstand exposure to relative humidity levels from 0 to 100%.

2.2.2.11 Salt Air and Seawater Spray

The buoys will withstand exposure of continuous salt air and seawater spray for the duration of the life cycle expectancy of the buoy as defined in Section 2.2.4.

2.2.2.12 Ultraviolet Exposure

The buoys will operate under conditions of continuous exposure to ultraviolet (UV) light typical as defined in Section 2.3.6.3.

2.2.2.13 Marine Growth

The buoys must be able to withstand an accumulation of marine growth on its underwater portion during operational and survival conditions as listed in Annex A.

2.2.2.14 Ice Exposure

The buoys will be subjected to the ice exposures as listed in Annex A.

2.2.2.15 Impact Resistance

The buoys will be subjected to occasional impacts due to drifting ice floes, logs, floating debris as well as impacts incurred during retrieval and deployment handling. The buoys are expected to survive these conditions for the duration of the life cycle expectancy of the buoy as defined in Section 2.2.4.

2.2.2.16 Abrasion Resistance

The buoys will be subjected to occasional abrasion due to wall friction resulting from close contact with ice, wood or any other debris as listed in Annex A. The buoys are expected to survive these conditions for the duration of the life cycle expectancy of the buoy as defined in Section 2.2.4.

2.2.3 Operational Service

The buoys shall be capable of unattended operation and will be subjected to the following operational conditions.

2.2.3.1 Deployment and Retrieval

The buoys and all of its components will be exposed to static and dynamic loads associated with buoy deployment and retrieval operations. The buoys are expected to survive these conditions for the duration of the life cycle expectancy of the buoy as defined in Section 2.2.4.

2.2.3.2 Maintenance

The service period for the buoy will be five (5) years. Maintenance activities will be limited to:

a) pressure washing up to 2 MPa (3 ksi) to remove fouling;

b) the removal of ice accumulation with the use of a non-metallic mallet (e.g. wood or rubber);

c) visual inspection of the buoy's surface, seams, fittings, lifting assembly and other auxiliary components;

d) the securing of loose fasteners due to expanding and contracting of mating surfaces.

Manufacturer recommended repair procedures and kits shall be available in the event damage is found in the areas described in c).

2.2.3.3 Buoy Storage

The buoys must survive typical storage conditions without any damage when not is service. The buoy may be stored outdoors, and exposed to seasonal elements such as UV, heat, cold weather, wind, etc. The buoy may also be stored on dirt, concrete, wood or asphalt surfaces.

2.2.4 Life Expectancy

Aside from the need for periodic cleaning, the buoys **shall have a maintenance-free service life of at least five (5) years**, based on year-round operation. A total service life of fifteen (15) years is expected. At the end of its life, the buoy shall still be recognizable as an aid to navigation as prescribed in [21].

2.2.5 Table 1-5Operational Criteria (Level of Service)

The buoys are required to meet the functional criteria described herein.

2.2.5.1 Visual Range

The buoys shall meet the visual range criteria specified within Annex A when subjected to the manufacturer's maximum mooring mass (includes external ballast, chain and any counterweight).

2.2.5.2 Radar Range

The buoys shall have a radar reflector with a minimal cross sectional area in accordance with Table 3.1 of reference [20] '*Buoys and beacons with radar reflector*-Technical Performance Requirements of VTS equipment) for X band Radar and have sufficient operational reserve buoyancy to ensure that it meets the target height requirements of this table.

2.2.5.3 Visible Height

The buoys shall have sufficient operational reserve buoyancy to ensure that it meets the minimum visible height criteria specified within Annex A.

2.2.5.4 Buoy Type

The buoys that will be used as navigational aids in this specification shall be of the type lateral, cardinal or special conforming to the requirements of Table 1.5 reference [21], "The Canadian Aids to Navigation System". Colour requirements are defined in Section 2.3.6.

2.2.5.5 Lantern Mounting

The buoys shall be capable of mounting lanterns and shall have a flat surface and be fitted with stainless steel inserts. The lantern mounting needs are defined within the *Equipment Requirements* portions of Annex A. The required LED lantern mounting bolt circle diameter patterns are shown in Figure A-2 .

2.2.6 Stability Criteria

The buoys are required to meet the stability criteria described herein. Stability is to be assessed such that the buoy is able to meet the operational criteria defined in Section 2.2.5 under the minimum and maximum limiting operational environmental conditions defined in Sections 2.2.2 (general) and Annex A (buoy specific).

2.2.6.1 Stability – Undamaged Condition

In the *undamaged condition the buoys shall remain upright at all times. The buoy shall not list in calm waters. This criterion is to be met considering all required payload items (e.g. LED lanterns, mooring) and minimum and maximum surcharge items (e.g. marine growth).

* Undamaged means a buoy in good condition retaining its original shape and a watertight hull. The buoys must be recognizable as an aid to navigation in all operational conditions defined herein. Normal superficial wear may be present.

2.2.6.2 Stability – Damaged Condition

In the damaged† condition the buoys shall remain afloat at all times.

† Damaged means a buoy can no longer perform as an aid to navigation in the prescribed operational conditions; or the hull is no longer watertight.

2.2.6.3 Operational Reserve Buoyancy

The operational reserve buoyancy corresponds to a stable design deployment configuration range. All operational criteria must be met within this range.

2.3 TECHNICAL REQUIREMENTS

The buoys shall meet the requirements of this specification and be capable of meeting all tests requirements specified herein.

2.3.1 Materials

2.3.1.1 General

All materials used in buoy construction are to meet the appropriate standards listed in Section 1.2. Novel materials, or materials not addressed herein may be acceptable if they meet performance and environmental requirements. The buoy shall be fitted with a buoy tower with a radar reflector. The buoy shall also make provisions for an adjustable ballast counterweight.

2.3.1.2 Material Certifications

A certificate is required to validate that the manufactured buoy does not contain any materials identified in the Canadian Environmental Protection Act (CEPA) Schedule I or materials identified for control or elimination on the CEPA Registry website.

In addition to the records required by the manufacturer QA program, the contractor shall maintain and provide material certifications from the material manufacturer or a certified independent testing laboratory, indicating that the materials described in the following sections meet the requirements of this specification over the life of the product:

a) UV stabilizers and colour pigments for 15 year life;

b) buoy shell material;

c) inserts and fittings;

d) internal/external ballast material;

e) buoyancy material; and

f) radar reflector.

2.3.2 Design, Dimensions and Surface Finish

2.3.2.1 General

To prevent the buoys from hanging, listing, or floating off its axis due to non-uniform distribution or interior material or construction, the location of the buoy centre of gravity and its tolerance shall be as shown on the supplier's drawings which will assist the CCG in their performance calculations.

2.3.2.2 Buoy Hull Construction

The buoy hull can be made from either of one section or sections fastened together. The buoy hull shall not be used to support any of the mooring loads associated with the buoy (i,e. counterweights, bridles or mooring chain) nor be structurally linked to the buoy's lifting eyes. In the case where the hull is attached to a structural frame, this frame shall meet all requirements described in Section 2.3.6 herein.

2.3.2.3 Buoy Tower Construction

Buoy towers above the hull shall be available in two options; a plastic or a metal tower.

2.3.2.3.1 Plastic Tower Mast

The fully enclosed plastic tower shall be water tight and enclose the radar reflector and serve as a platform to support the above mounting of a lantern as well as support internal equipment such as batteries as well as external mounted equipment such as solar panels. Supports shall be provided to facilitate the safe means of scaling the tower to conduct overhead servicing of the lantern and related equipment. The tower shall be strong enough not to sustain any cracks or breakage during normal handling or in the removal of ice with a hard rubber or wooden mallet.

2.3.2.3.2 Open Tower Mast

The open tower mast structure shall enclose the radar reflector and serve as a platform to support the above mounting of a lantern as well as support equipment such as batteries and solar panels. Supports shall be provided to facilitate the safe means of scaling the tower to conduct overhead servicing of the lantern and related equipment. The tower structure shall be strong enough not to sustain any cracks or breakage during normal handling or in the removal of ice with a hard rubber or wooden mallet.

2.3.2.4 Approved Shape

Buoys shall have the appropriate above water shape, as specified by the contract, meeting the requirements of Table 1-5, reference [21] herein.

2.3.2.5 Overall Dimensions

The overall dimensional limits, including Minimum / Maximum Height and Maximum Draft are defined in Annex A.

2.3.2.6 Weight in Air

The maximum weight in air of the buoy and associated standard outfit should not exceed the weight as referenced in Annex A. This excludes the weight of additional payload items e.g. LED lantern.

2.3.2.7 Surface Finish (Plastic)

The plastic buoy shall be free from blemishes, bumps, indentations, ragged edges, cracks, scales, pits and blisters. All corners and edges are to be rounded with minimum radii of not less than 3 mm.

2.3.2.8 Surface Finish (Metallic)

Metallic surface finishes shall be free of any burrs or sharp edges. All corners and edges are to be rounded with minimum radii of not less than 1 mm.

2.3.3 Structural Capabilities

The buoy shall be designed to meet the requirements of this section and maintain these throughout the specified life expectancy.

2.3.3.1 Safe Working Load (SWL)

All lifting and mooring attachments and assemblies shall have a **minimum** safety factor of 5 for the life of the buoy. The *Safe Working Load* is 20 % ($^1/_5$) of the failure strength.

2.3.3.1.1 Transference of Loads

Lifting eyes attached to an external rigid frame or an internal mechanism joining the lifting eye to the mooring eye inside the hull should contain a minimum number of components to transfer loading from the lifting to the mooring eye. This shall be known as the *Lifting Assembly.*

2.3.3.2 Lifting and Mooring Attachments

All lifting and handling eyes shall be from corrosion resistant materials. All lifting eyes shall be rated considering the deployment and retrieval conditions described in Section 2.2.3.1.

The values to consider for the SWL for each lug type are:

a) For a Lifting Assembly the sum of the equivalent air weight of:

- the buoy, as purchased
- all payload items, e.g. Lantern;
- the manufacturer's recommended maximum mooring mass as defined in Section 2.3.9.
- the environmental factors accumulated over the service life i.e. marine growth and ice accumulation.

b) For a *Mooring Lug* the value is equivalent to the *Lifting Assembly* in (a);

It is desired to be able to access and inspect all lifting assemblies over the life of the buoy. The capacity of each lug attachment must be clearly identified as per Section 2.3.7.5.

2.3.3.3 Impact Resistance

In general the buoy should be capable of withstanding impact loads from hydrodynamic factors (*e.g.* breaking waves) and dynamic loads; i.e. the survival level loads caused by typical handling operations in all operational temperatures. Actual testing using an Industry standard test method or mathematical analysis shall be used to show that the buoy will be able to withstand the fore mentioned loading conditions.

2.3.3.4 Abrasion Resistance

In general the buoy shell shall be capable of withstanding abrasion loads generated from slow moving ice or river debris in all operational temperatures. The buoy's shell shall be abrasion tested in accordance with the standard test specification ISO 9532 '*Abrasion Resistance of Rigid Plastics*' (Taber Test) with Wheel CS 17, Load of 1 kg and be capable of resisting any wear when subjected to the conditions as detailed in Annex A.

2.3.4 Exterior Outfit

2.3.4.1 Buoy Shell

The buoy shell, or protective outer skin, shall be constructed of a polymer plastic. For buoys that do not have a distinct outer skin, the outer surface shall be compacted in such a manner that it will act as a shell.

Unless otherwise specified, the entire shell shall be uniform in colour and appearance, and shall meet all requirements described in Section 2.3.6.

2.3.4.2 External Ballast

The buoys shall make provisions for external ballast that is adjustable in weight.

2.3.4.3 Fasteners, Bushings and Inserts

All metallic fittings and fasteners shall be of stainless steel types 18-8, 316, and/or 316L. All other alternative material will require prior CCG approval. The functionality of fittings and fasteners shall not be affected by prolonged exposure to the marine environment and be easy to dismantle using standard tools and equipment.

All parts shall be free of cracks and other material defects and all sharp corners and edges shall be rounded. Metal inserts and wear bushing shall be designed to remain functional over the buoy's specified life expectancy. Alternatives, such as replaceable fittings, may be considered if the maintenance-free service life is achieved.

2.3.4.4 Mooring Attachment Points

The buoys shall be fitted with a minimum of **two mooring attachment points** symmetrical opposite to each other. Each mooring eye shall be fitted with a stainless steel bushing inserts not less than the dimension specified in Annex A.

2.3.4.5 Lifting and Handling Attachment Points

The buoys shall be fitted with the specified number of lifting and/or handling attachment points as identified in Annex A. Each lifting and/or handling point shall be located as shown in Figure A.1.2 and in such a manner to allow safe access when in service, and abide by the minimum dimensional tolerances defined for each buoy type. Lifting eyes will be made from stainless steel or marine grade aluminum capable of meeting the requirements of 2.3.3.2.

2.3.5 Exterior / Interior Outfit

2.3.5.1 Internal / External Ballast

Ballast is used to ensure compliance with functional and stability criteria. Ballast material must be non-toxic and non-polluting and capable of resisting rust. Any material regulated or controlled for use by Environment Canada is prohibited. The ballast material must be linked to the buoy hull and not move from its design location over the life of the buoy.

2.3.5.2 Buoyancy Material

The buoyancy material used shall be closed cell foam; its type is at the discretion of the manufacturer. Preference will be given to recyclable materials as per section 2.3.8. Buoyancy material shall be non-permeable. The buoyancy material shall be free of cracks, gouges, and embedded foreign material. There shall be no internal voids of such quantity or size that could cause the buoy to be susceptible to flooding.

When buoyancy material is the principal method of containing interior outfit items, namely ballast and radar reflectors, it shall be strong enough to hold these components in place. When assessing this requirement, attention should be given to the rigors of the marine environment and the specified life expectancy of the buoy.

2.3.6 Colour

Buoy shells and other components comprising the buoy markings shall conform to the requirements of this section. The main colour of the buoy shall be homogenous through the buoy shell with a ***'high gloss'*** finish.

2.3.6.1 Colour Pigments

Figure 2-1 below defines the desired IALA chromaticity values for x and y for each of the pigments used in the buoy's plastic in accordance with IALA-108 E chart. As colour pigments are also known to fade over time towards the center of the graph, the CCG has defined preferred colour zones for its buoys.
Figure 2-2 defines the preferred CCG colour zones, where zone 1 is more desirable than zone 2.

Note: White and Black zones are not divided.

Manufacturers who comply with the colour and luminance of Zone 1 (Figure 2-2) will be awarded more points than Zone 2. The CCG will require that colour measurements shall be taken at (6) six random locations along the buoy's surface. The average of these values for each of the x and y will be compared to the Table 2-1. Colour pigmentation can be measured with the use of a handheld Color Photo Spectrometer or equivalent instrumentation for a 2 degree observation angle and an Illuminant of D65.

Recommendation E-108 – Surface colours used as visual signals on aids to navigation
May 1998 - Revised May 2004

Figure 1 – Chromaticity Regions for Ordinary Colours

Recommended regions for the ordinary colours specified in Table 1, the coordinates of the corner points are provided in Table 2.

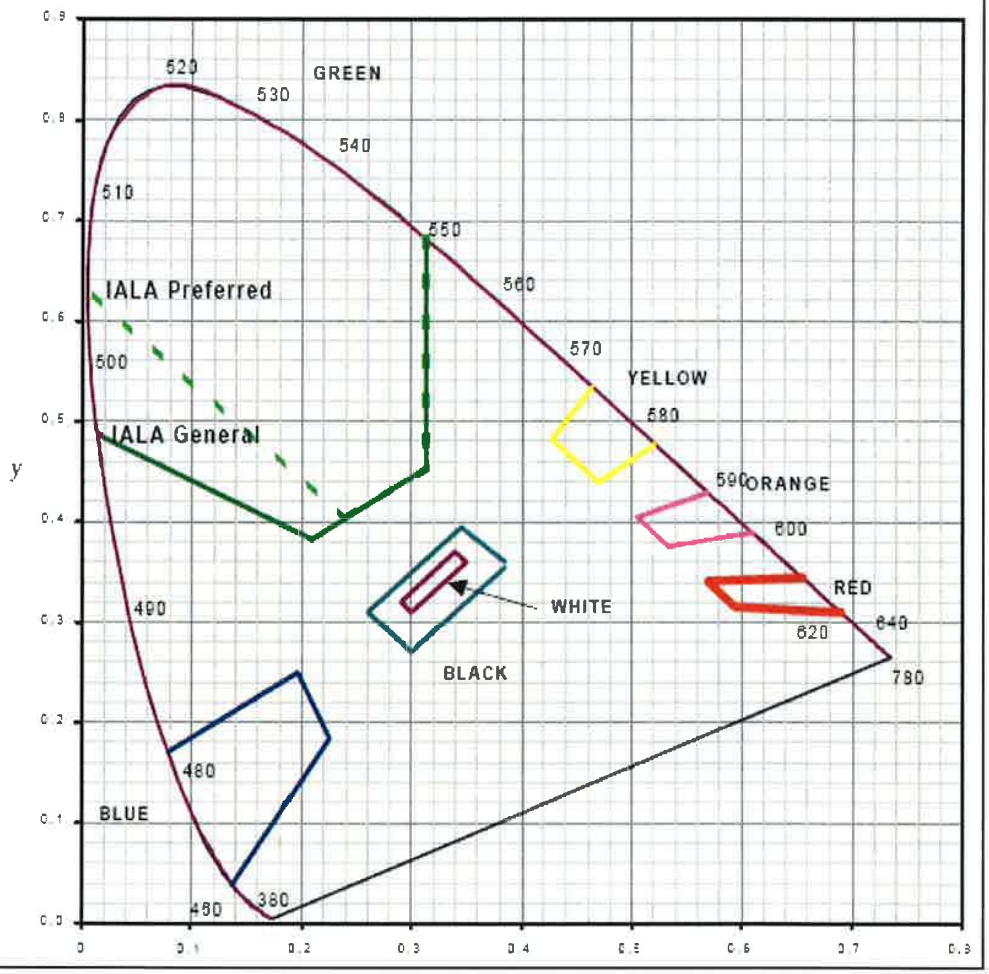

Figure 2-1: IALA-108 Chromaticity Chart

2.3.6.2 Preferred CCG Colour Zones

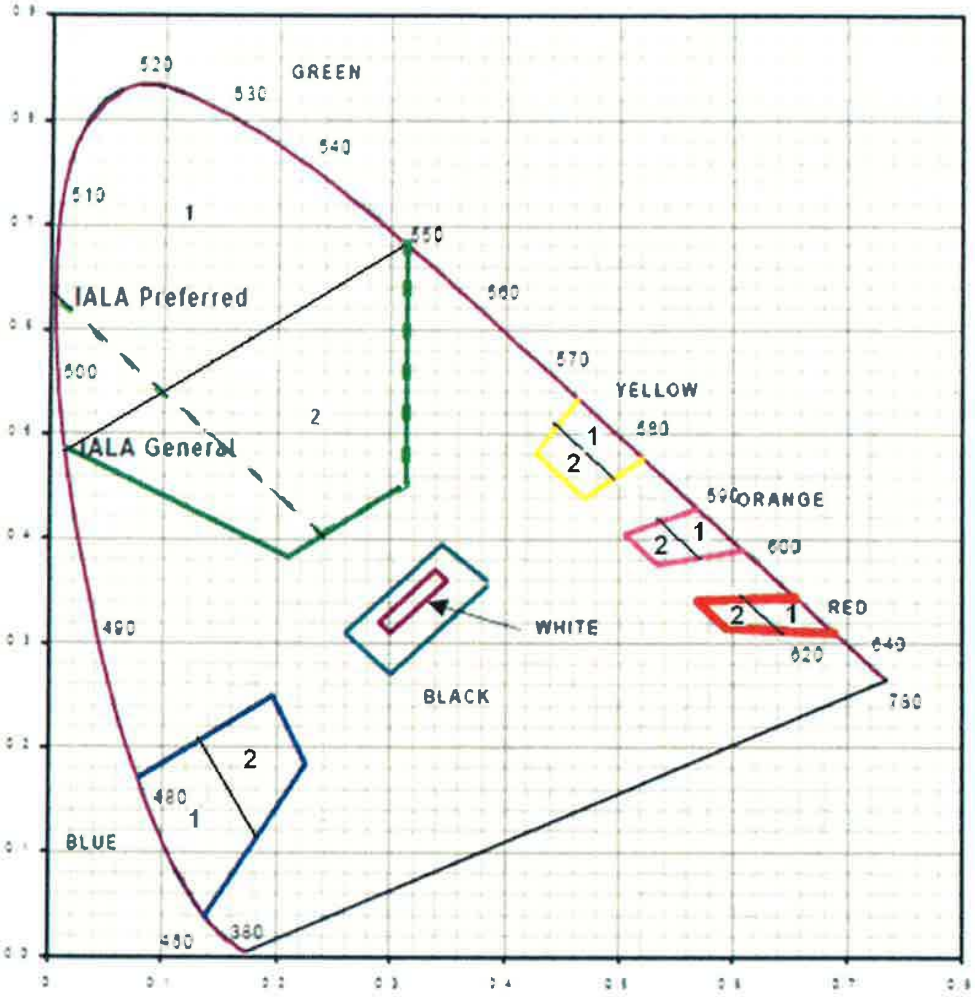

Figure 2-2: CCG preferred colours zones within IALA-108 Chromaticity Chart

Table 2-1: Definition of Boundary line within preferred colour zones

Colour	CIE 1931 values			
	x+	x-	y+	y-
Red	0. 6400	0. 6080	0. 3450	0. 3100
Orange	0.4200	0.3800	0.5750	0.5325
Green	0.3150	0.0015	0.6800	0.4800
Yellow	0.4550	0.4990	0.4600	0.5125
Blue	0.1320	0.1800	0.2060	0.1080

2.3.6.3 Ultraviolet Stabilizers

Ultraviolet stabilizers shall be added to the plastic to enhance colour retention and to protect the material from degradation due to continuous exposure to the sun. Stabilizers shall provide ultraviolet protection such that the colours specified will be maintained within IALA limits for a minimum of 6 years.

Colour stability shall be measured in accordance with Table 1-4 reference[18], and the allowable colour change shall not exceed ΔE^*_{ab} 4.0, after 1000 hours of exposure in a Xenon Weatherometer, according to reference [18] herein.

Alternate methods of colour retention may be proposed for consideration by CCG.

2.3.7 Markings

All markings, unless otherwise specified, will be clearly and legibly printed in a permanent fashion. The method and placement of all markings shall not affect the structural integrity of the buoy. They will be in French and English and shall be identified on delivered drawings (Section 2.3.8).

2.3.7.1 Coast Guard Markings

The words:

CANADIAN COAST GUARD

GARDE CÔTIÈRE CANADIENNE

20xx

where "20xx" is the year of manufacture, shall be inscribed in block digits on each buoy above the waterline. The letters shall not be less than twenty-five (25) mm tall. For buoy dimensions too small to accommodate the entire inscription, only the year of manufacture will have 25 mm tall letters. The remaining title will be sized as appropriate, according to the buoy dimensions.

2.3.7.2 Identification

Every plastic buoy shall be fitted with a unique Serial Number. The numbering shall follow the following convention: *AB-12-3456,* where the "AB" is an alphabetic supplier designation; the first two numeric digits represent the year of manufacture; and the four digits is a unique buoy identifier. The size of lettering shall be in clearly legible.

2.3.7.3 Operational Reserve Buoyancy Markings

Two markings identifying the Operational Reserve Buoyancy limits of the buoy shall be clearly and permanently marked around the entire circumference of the hull. These markings shall not in any way affect the buoy's structural integrity. See Figure 1-1.

2.3.7.4 Radar Reflector Marking

When radar reflectors are contained within a plastic tower enclosure the letter "R" shall be inscribed after the year defined in Section 2.3.7.1. It is equivalent in size to the year of manufacture digits.

2.3.7.5 SWL Markings

The safe working load (SWL) associated with all lifting and mooring points will be marked using **SI units** adjacent to each lifting point.

2.3.8 Environmental Impact

Buoy designs and materials will be selected to minimize their environmental impact upon disposal at the end of their useful life. Considerations shall be given to the three "R's" of environmental protection, namely **R**euse, Waste **R**eduction and Material **R**ecycling. Also, it is desirable that manufacturing processes be environmentally friendly.

2.3.9 Deliverables (Supporting Documentation)

Manufactures are required to supply the following information in the language or languages required by the contract. All deliverables shall be in electronic PDF format. These requirements may be reduced at the discretion of CCG.

a) User Manual for each buoy type describing, as a minimum, the following:

- Recommended/required deployment, storage and retrieval procedures if applicable;
- Recommended/required maintenance procedures;
- Fastener torques, if applicable;
- Repair procedures, if applicable;
- Disposal plan options with associated procedures;
- Immersion charts in units of mass per vertical displacement [kg/cm];
- Recommended/required anchors sizes;
- Minimum and Maximum recommended mooring mass;
- Provide a mooring table as follows for water currents possibilities between 0-6 knots:

Water Depth (m)	Total Weight of Mooring Accessories including Chain and Counterweight (kg)	Sinker Air Weight (kg)
< 10		
10 - 20		
20 - 30		
30 - 40		
> 40		

b) Technical Data Package for each buoy type describing, as a minimum, the following:

- Engineering drawings including the design waterline, centre of gravity, meta-centric height, centre of buoyancy, weight-in-air and height from water line to top of buoy including appendages for both fresh and salt water; location and detail for all markings (e.g. height);
- Engineering calculations including determination of free board, buoy stability under maximum operational conditions (values listed in Annex A);
- Parts lists if applicable;
- Radar reflector details, if applicable;

Note: All engineering calculations shall be performed by a **professionally accredited** Naval Architect.

c) Design analysis of lifting and mooring points, and other elements crucial to operator safety.

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Annex A BUOY SPECIFIC PERFORMANCE REQUIREMENTS

A.1 SCOPE

This annex states the supplementary requirements for each of the buoy types. These buoys are divided primarily into two weight categories. Each buoy is to meet the requirements of this annex and the requirements of the main body of the specification.

A.1.1 Priority of Documents

In the event of any conflict between this annex and the main body of this specification, the requirements of Annex A and Annex B shall prevail.

A.1.2 Definition

The buoy shall meet the performance requirements listed below.

A.2 PERFORMANCE REQUIREMENTS

This section defines the environmental conditions under which the buoy must function as an aid to navigation. It also defines functional criteria and supplementary requirements, which the buoy must meet in order to meet the requirements of this section.

A.2.1 Medium Channel / Harbour Pillar- Category 1

Item	Dimensional Requirements	Units	Value
A.2.1.1	Minimum / Maximum Hull Diameter (W)	m	1.35 / 1.55
A.2.1.2	Minimum / Maximum Buoy Height (H)	m	3.2 / 5.5
A.2.1.3	Buoy Weight Range (excluding external ballast)	kg	**200 - 399**
A.2.1.4	Maximum Buoy Draft (Height submerged: Hs)	m	2.6
A.2.1.5	Impact Resistance	-	See Section 2.3.3.3
A.2.1.6	Buoy Hull Shell Abrasion Resistance	mg	**< 120 mg weight loss after 4000 cycles**
A.2.1.7	Threaded lantern mounting area	-	Figure A-2
A.2.1.8	Expected Maximum Lantern Weight	kg	20
A.2.1.9	Overall Buoy Silhouette	-	Figure A-1
	Functional Criteria		
A.2.1.10	Minimum Visual Range [at max mooring mass]	nm	1.2
A.2.1.11	Minimum Radar Range[6]	nm	1.5

A.2.1.12	Minimum Radar Cross Sectional Area	m^2	10.0
A.2.1.13	Minimum Visible Height [Hf at min Rb]	m	1.80
A.2.1.14	Tower Construction Type: 1= Plastic Tower Mast 2= Open Tower Mast	Optional (1 or 2)	1
	Equipment Requirements		
A.2.1.15	Radar Reflector	-	Yes
A.2.1.16	Lantern Mount	-	Yes
A.2.1.17	External Adjustable Ballast	-	Yes
	Lifting and Mooring Eyes		
A.2.1.18	Minimum Number of Lifting Lugs	-	2
A.2.1.19			
A.2.1.20	Minimum Number of Mooring lugs	-	2
A.2.1.21	Lifting Eye Safe Working Load (SWL)(range)	kg	See Section 2.3.3.1
A.2.1.22	Lifting Assembly Break Load	kg	See Section 2.3.3.2
A.2.1.23	Mooring Eye Break Load	kg	See Section 2.3.3.2
A.2.1.24	Minimum Mooring Lug Internal Diameter	mm	50
A.2.1.25			
A.2.1.26	Minimum Lifting Lug Internal Diameter	mm	150
	Environmental Conditions		
A.2.1.27	Maximum Marine Growth – Operational	kg	150
A.2.1.28	Operational Current Range	knots	0 - 4
A.2.1.29	Maximum Current – Survival	knots	10.0
A.2.1.30	Maximum Wind Speed – Operational	knots	30.0
A.2.1.31	Maximum Wind Speed – Survival	knots	80.0
A.2.1.32	Maximum Buoy Tilt Angle at max current – Operational	deg	6
A.2.1.33	Maximum Operational Wave Height	m	3
A.2.1.34	Exposure to Ice	-	Occasional
	Buoy Markings		
A.2.1.35	Operation Reserve Buoyancy Area	-	Rb

Table A-2.1

A.2.2 Medium Channel / Harbour Pillar- Category 2

Item	Dimensional Requirements	Units	Value
A.2.2.1	Minimum / Maximum Hull Diameter (W)	m	1.35 / 1.55
A.2.2.2	Minimum / Maximum Buoy Height (H)	m	3.2 / 5.5
A.2.2.3	Buoy Weight Range (excluding external ballast)	kg	**400 - 700**
A.2.2.4	Maximum Buoy Draft (Height submerged: Hs)	m	2.6
A.2.2.5	Impact Resistance	-	See Section 2.3.3.3
A.2.2.6	Buoy Hull Shell Abrasion Resistance	mg	**< 120 mg weight loss after 10,000 cycles**
A.2.2.7	Threaded lantern mounting area	-	Figure A-2
A.2.2.8	Expected Maximum Lantern Weight	kg	20
A.2.2.9	Overall Buoy Silhouette	-	Figure A-1
	Functional Criteria		
A.2.2.10	Minimum Visual Range [at min Rb]	nm	1.2
A.2.2.11	Minimum Radar Range[6]	nm	1.5
A.2.2.12	Minimum Radar Cross Sectional Area	m^2	10.0
A.2.2.13	Minimum Visible Height [Hf at min Rb]	m	1.80
A.2.2.14	Tower Construction Type: 1= Plastic Tower Mast 2= Open Tower Mast	Optional (1 or 2)	1
	Equipment Requirements		
A.2.2.15	Radar Reflector	-	Yes
A.2.2.16	Lantern Mount	-	Yes
A.2.2.17	External Adjustable Ballast	-	Yes
	Lifting and Mooring Eyes		
A.2.2.18	Minimum Number of Lifting Lugs	-	2
A.2.2.19			
A.2.2.20	Minimum Number of Mooring lugs	-	2
A.2.2.21	Lifting Eye Safe Working Load (SWL)(range)	-	See Section 2.3.3.1
A.2.2.22	Lifting Assembly Break Load	-	See Section 2.3.3.2
A.2.2.23	Mooring Eye Break Load	-	See Section 2.3.3.2
A.2.2.24	Minimum Mooring Lug Internal Diameter	mm	50
A.2.2.25			
A.2.2.26	Minimum Lifting Lug Internal Diameter	mm	150

Environmental Conditions			
A.2.2.27	Maximum Marine Growth – Operational	kg	150
A.2.2.28	Operational Current Range	knots	0 - 4
A.2.2.29	Maximum Current – Survival	knots	10.0
A.2.2.30	Maximum Wind Speed – Operational	knots	30.0
A.2.2.31	Maximum Wind Speed – Survival	knots	80.0
A.2.2.32	Maximum Buoy Tilt Angle at max current – Operational	deg	6
A.2.2.33	Maximum Operational Wave Height	m	3
A.2.2.34	Exposure to Ice	-	None
Buoy Markings			
A.2.2.35	Operation Reserve Buoyancy Area	-	Rb

Table A-2.2

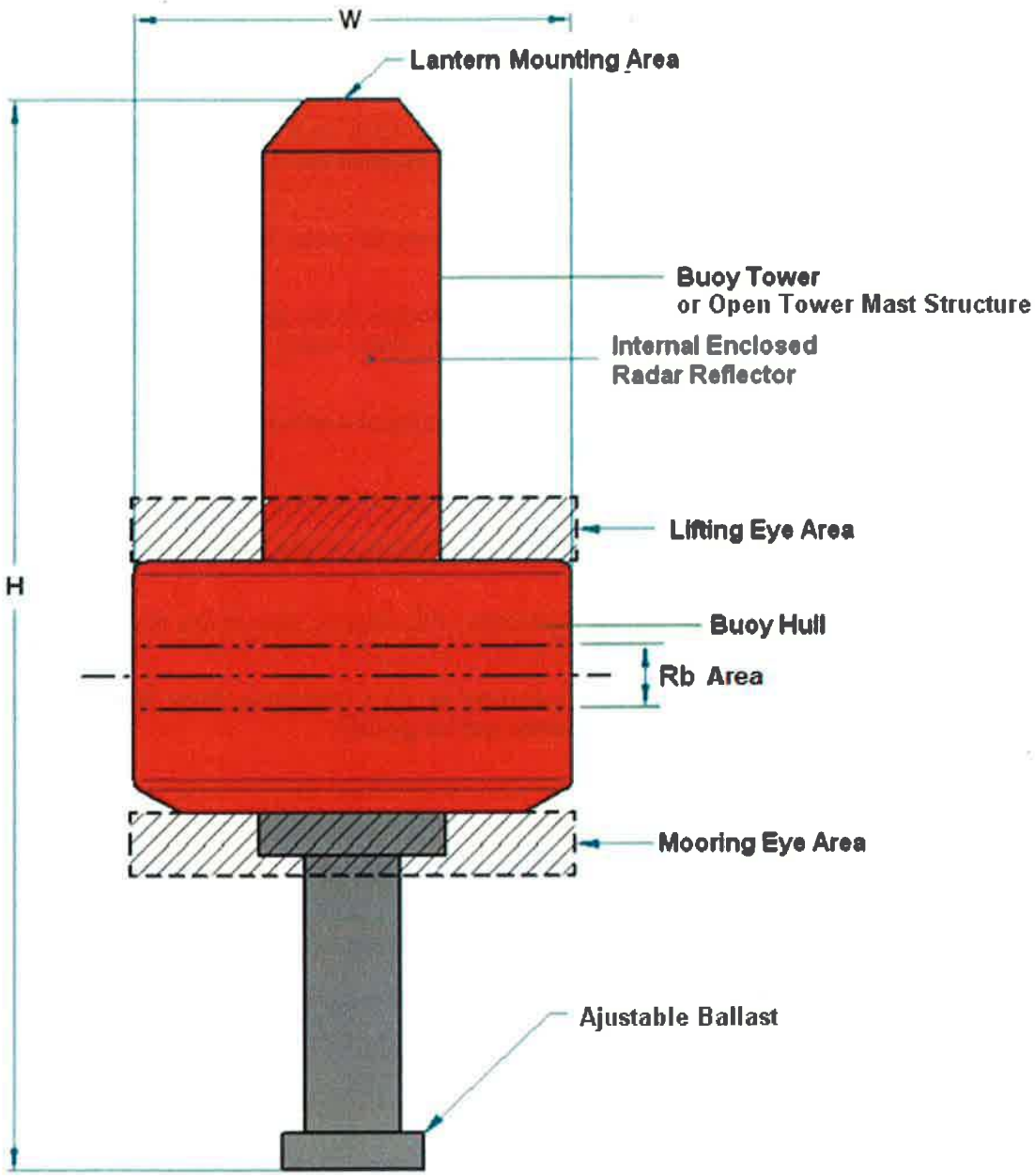

Figure A-1: Medium Channel / Harbour Pillar Buoy Silhouette

Notes

- Occasional exposure to ice indicates that these buoys may come in contact with ice fragments at the end of the navigation season.
- Visual Range assumes that the observer is 3m above the water level in clear weather with calm seas and an optimal visibility of 10 nautical miles. It is also assumed that there are no background features to obscure the buoy.
- Radar Range assumes an X-Band radar antenna 3m above the water level in clear weather and calm seas.
- Visible height is defined as the distance from the waterline to the top of the buoy. The waterline calculated in the delivered condition when floated in fresh water, including radar reflector and excluding the mooring.
- Lantern Mount, where required shall allow for the mounting of a self-contained LED lantern at the top of the buoy without interference with the lifting lugs.
- Marine growth includes any accumulated annual marine growth on the buoy or chain.
- The weight of mooring is the sum of all mooring components including the chain and external ballast etc (i.e. counterweights, sea growth).
- Expected lantern weight does not include the weight of the adaptor plate or any interface to the top of the buoy.
- Lifting Eye Safe Working Load (SWL) is calculated as 1/5 x (Maximum Buoy Weight + Maximum Mooring Mass – including counterweight, marine and ice growth).

A.2.3 Lantern Mounting

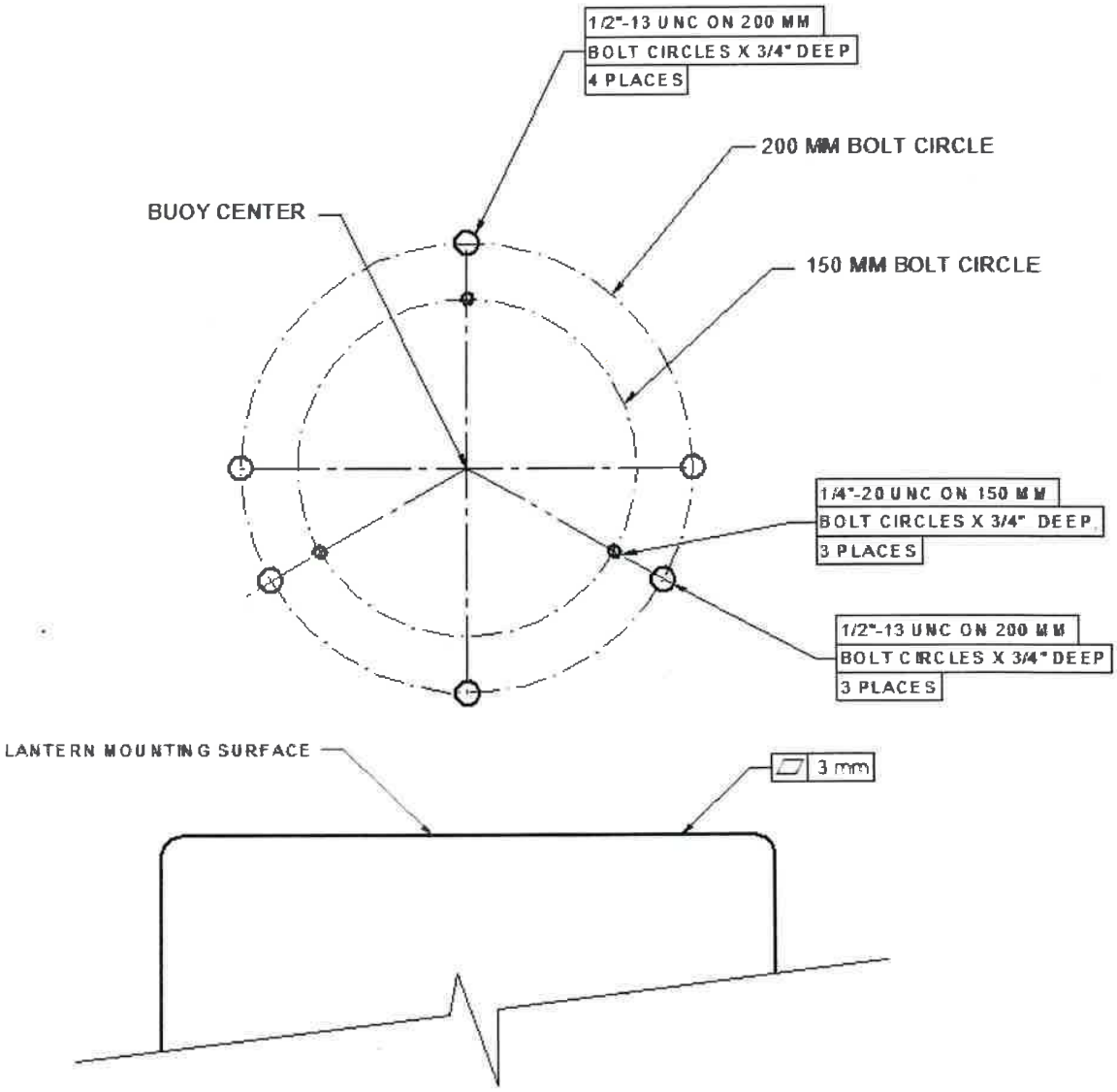

Figure A-2: Threaded Lantern Area

Fisheries and Oceans Canada
Pêches et Océans Canada
Canadian Coast Guard
Garde côtière canadienne
58-013-000-GA-EP-001

ANNEX "C"

Medium Plastic Coastal/Harbour Buoys

Canadian Coast Guard
Evaluation Framework

Canada

Document Control

Record of Amendments

#	Date	Description	Initials
1.0	08 July 2013	1.0 initial release	AM

Approvals

Office of Primary Interest (OPI) Technical Specialist ASD-AToN	Antonio Maso	Approved: Date:	 July __,2013
Hydraulic Engineer Hydraulics Engineering Group - C&A	Bernard Doyon	Approved: Date:	 July __,2013
Manager Maritime and Civil Infrastructure	Stephanie Williams	Approved: Date:	 July __,2013
Director, Alternative Service Delivery for Aids to Navigation Deputy Commissioner's Office - Operations	Jean Delisle	Approved: Date:	 July __,2013
Director, Maritime and Civil Infrastructure Integrated Technical Services	Fernando Mojica	Approved: Date:	 July __,2013
Director General Integrated Technical Services	Michel Cécire	Approved: Date:	 July __,2013

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Document Management

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This document is issued by the Director General, Integrated Technical Services (ITS), Canadian Coast Guard's National Technical Authority under delegation from the Deputy Minister Fisheries and Oceans and the Commissioner of the Canadian Coast Guard (CCG).

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b) The OPI is responsible for:

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- the availability of this information;
- the update as needed;
- the periodical revision; and
- the follow-up of all requests, comments and/or suggestions received to the originator.

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Position Title: Manager, Maritime and Civil Infrastructure
Address: 200 Kent, Street, 7W064
Ottawa, ON
K1A 0E6

All requests should:

i) be clear and concise; and

ii) reference the specific Chapter, Section, Figure or Table.

Chapter 1 INTRODUCTION

The Canadian Coast Guard (CCG) has initiated a competitive process for awarding Standing Offers to one or several qualified suppliers for a Medium Plastic Coastal/Harbour Buoy for aids to navigation.

Proposals will be evaluated in accordance with the evaluation framework described in this document.

1.1 DOCUMENTS

The following three documents form the baseline against which the proposals will be evaluated:

1) *Medium Plastic Coastal/Harbour Buoys — Request for Standing Offer*-58-013-000-GA-GA-001

2) *Medium Plastic Coastal/Harbour Buoys — Performance Specification*, 2013-06, 58-013-000-GU-GJ-001

3) *Medium Plastic Coastal/Harbour Buoys — Statement of Work*, 2013-06, 58-013-000-EK-SW-001

Chapter 2 OVERVIEW OF THE EVALUATION PROCESS

The following five-step process has been established for evaluating proposals:

1) Public Works and Government Services Canada (PWGSC) will examine proposals to determine whether the proposals are complete and meet the mandatory requirements of the Request for Standing Offer (RFSO). Failure to meet any of the mandatory requirements of the RFSO will result in the proposal being declared non-responsive, and PWGSC will not give it any further consideration.

2) PWGSC will forward the technical proposals to the Technical Authority for evaluation. PWGSC will retain the price proposals, as they are responsible for the assessment of financial data.

3) The evaluation team will review the technical proposals for compliance with the technical criteria of the ***Technical Performance Specification*** and of the Statement of Work (SOW). Failure to meet any of the mandatory requirements of the Performance Specification or the SOW will result in the proposal being declared non-responsive, and it will not receive any further consideration. See Chapter 3 for more information on meeting mandatory criteria.

4) The evaluation team will use the rated criteria to assess the technical proposal and assign a technical score to it. See Chapter 5 for more information on meeting rated criteria.

5) Proposal price is determined by multiplying the unit price quoted by the number of buoys specified in the SOW and adding to that amount the price quoted for the Recommended List of Spare Parts (RLSP). The ***cost per point*** will be determined by dividing the proposal price by the total technical score. The proposal with the lowest cost per point will be recommended for award of a Standing Offer.

Chapter 3 MANDATORY CRITERIA

To demonstrate that they have met the mandatory technical criteria, bidders are required to provide, as a minimum, the following:

- A clear statement of compliance with all the "shall", "will" and "must" statements in the Statement of Work;
- A clear statement of compliance with all the "shall", "will" and "must" statements in the Performance Specification;
- The evidence required to verify compliance with the Annex A.2.1 /A.2.2 of *Medium Plastic Coastal/Harbour Buoys — Performance Specification;*
- The evidence that they meet all the mandatory criteria of the RFSO; and
- A clear statement indicating where within the bid proposal, the section, page number and paragraph, the information required for meeting compliancy is found.

All bid proposals are to be received in two formats, and two copies of each are required.

1) Hard Copy.
2) DVD or CD containing a PDF format of the proposal.

Chapter 4 SELECTION METHODOLOGY

Proposals meeting all the mandatory criteria will be assessed for compliance with the rated criteria shown in

Table 1: Mandatory Buoy Requirements Criteria

	Criterion	Reference	Verification Me
1	Minimum / Maximum Hull Diameter (W)	A.2.1.1	SD
2	Maximum Buoy Height (H)	A.2.1.2	SD
2	Buoy Weight Range	A.2.1.3	SD
3	Maximum Buoy Draft (Hs)	A.2.1.4	SD
4	Threaded lantern supports	A.2.1.7	SD
5	Minimum Visual Range [at min Rb]	A.2.1.10	SD
6	Minimum Radar Range	A.2.1.11	STD
7	Minimum Radar Cross Sectional Area	A.2.1.12	STD
8	Minimum Number of Lifting Lugs	A.2.1.18	SD
9	Minimum Number of Mooring lugs	A.2.1.20	SD
10	Lifting Eye Safe Working Load (range) (SWL >=5)	A.2.1.23	SD
11	Lifting Assembly Break Load	A.2.1.24	SD
12	Mooring Eye Break Load	A.2.1.25	SD
13	Minimum Mooring Lug Internal Diameter	A.2.1.26	SD
14	Minimum Lifting Lug Internal Diameter	A.2.1.27	SD
15	Internal/ External Ballast	2.3.5.1	SD
16	Colour Compliance to IALA 108-E	2.3.6.2	STD
18	Lantern Mounting	2.2.5.5	SD
19	Mooring Attachment Point	2.3.4.4	SD
20	Lifting Attachment Points	2.3.4.5	SD
21	Abrasion Resistance	2.2.2.16	STD

Table in Chapter 5 below.

The technical score is the sum of the scores assigned to the individual rated criteria; the maximum possible score is **75**.

The total technical score of the successful **Bidder** must equal or exceed **60**.

The proposal price is divided by the total technical score to determine cost per point. The proposal with the lowest cost per point will be recommended for award of the Standing Offer.

Chapter 5 RATING METHODOLOGY

The bid will be based on the following rating methodology divided into parts, Mandatory and Rated requirements. The Mandatory Buoy Requirements **must be met** for the buoy to be considered as part of the bid. Once the Mandatory requirements have been met the buoy will be further rated in accordance with the Verification Method. The first part deals with the type of Verification Method required by the CCG to validate that the criteria has been met and the second part deals with the rating given to the data supplied. Although all the criteria are required to be met only some will be rated.

5.1 VERIFICATION METHOD

The following will detail the types of verification method used by the bidders to comply with the Technical Specification.

Statement of Conformance (SOC): Verbal acknowledgement that this requirement has been met.

Submit Data (SD): Provide Engineering Drawings or Calculations to validate that this requirement has been met.

Submit Test Data (STD): Provide test data from an independent laboratory via an ***Industry Standard Test*** to validate that this requirement has been met.

5.2 RATING CRITERIA

The criteria are shown in

Table 1: Mandatory Buoy Requirements Criteria

	Criterion	Reference	Verification Method	Met/Not Met
1	Minimum / Maximum Hull Diameter (W)	A.2.1.1	SD	
2	Maximum Buoy Height (H)	A.2.1.2	SD	
2	Buoy Weight Range	A.2.1.3	SD	
3	Maximum Buoy Draft (Hs)	A.2.1.4	SD	
4	Threaded lantern supports	A.2.1.7	SD	
5	Minimum Visual Range [at min Rb]	A.2.1.10	SD	

6	Minimum Radar Range	A.2.1.11	STD	
7	Minimum Radar Cross Sectional Area	A.2.1.12	STD	
8	Minimum Number of Lifting Lugs	A.2.1.18	SD	
9	Minimum Number of Mooring lugs	A.2.1.20	SD	
10	Lifting Eye Safe Working Load (range) (SWL >=5)	A.2.1.23	SD	
11	Lifting Assembly Break Load	A.2.1.24	SD	
12	Mooring Eye Break Load	A.2.1.25	SD	
13	Minimum Mooring Lug Internal Diameter	A.2.1.26	SD	
14	Minimum Lifting Lug Internal Diameter	A.2.1.27	SD	
15	Internal/ External Ballast	2.3.5.1	SD	
16	Colour Compliance to IALA 108-E	2.3.6.2	STD	
18	Lantern Mounting	2.2.5.5	SD	
19	Mooring Attachment Point	2.3.4.4	SD	
20	Lifting Attachment Points	2.3.4.5	SD	
21	Abrasion Resistance	2.2.2.16	STD	

Table below outlines what type of Verification Method is to be provided with the bid proposal. This verification method together with the assigned weighting will determine the maximum score for each rated criterion.

Note: To make it possible to assess corporate experience, the Bidder should include in his or her proposal information related to the number of buoys the manufacturer has developed, the number of years the manufacturer has been manufacturing buoys, and a list of the major clients to whom the bidder or manufacturer has provided in-service support in recent years. The information should be complete and be in a form that enables validation. It should also contain contact information for references who can confirm the accuracy of the information. The bidder should also include information regarding two key components of their organisation, namely the engineering and the quality assurance departments. To that mater, information on the number of employees of each department

will be provided as well as a description of overall quality-control program (with examples of corrective measures initiated in the past where necessary).

Table 1: Mandatory Buoy Requirements Criteria

	Criterion	Reference	Verification Method	Met/Not Met
1	Minimum / Maximum Hull Diameter (W)	A.2.1.1	SD	
2	Maximum Buoy Height (H)	A.2.1.2	SD	
2	Buoy Weight Range	A.2.1.3	SD	
3	Maximum Buoy Draft (Hs)	A.2.1.4	SD	
4	Threaded lantern supports	A.2.1.7	SD	
5	Minimum Visual Range [at min Rb]	A.2.1.10	SD	
6	Minimum Radar Range	A.2.1.11	STD	
7	Minimum Radar Cross Sectional Area	A.2.1.12	STD	
8	Minimum Number of Lifting Lugs	A.2.1.18	SD	
9	Minimum Number of Mooring lugs	A.2.1.20	SD	
10	Lifting Eye Safe Working Load (range) (SWL >=5)	A.2.1.23	SD	
11	Lifting Assembly Break Load	A.2.1.24	SD	
12	Mooring Eye Break Load	A.2.1.25	SD	
13	Minimum Mooring Lug Internal Diameter	A.2.1.26	SD	
14	Minimum Lifting Lug Internal Diameter	A.2.1.27	SD	
15	Internal/ External Ballast	2.3.5.1	SD	
16	Colour Compliance to IALA 108-E	2.3.6.2	STD	
18	Lantern Mounting	2.2.5.5	SD	
19	Mooring Attachment Point	2.3.4.4	SD	
20	Lifting Attachment Points	2.3.4.5	SD	
21	Abrasion Resistance	2.2.2.16	STD	

Table 2: Rated Buoy Criteria

#	Criterion	Ref.#	Verification Method	Rated (Y/N)	Score Distribution	Max Score
1	Air Temperature	2.2.2.1	SOC	N	-	-
2	Water Temperature	2.2.2.2	SOC	N	-	-
2	Water Type	2.2.2.3	SOC	N	-	-
3	Operational Wind Speed	2.2.2.4	SOC	N	-	-
4	Survival Wind Speed	2.2.2.5	SOC	N	-	-
5	Maximum Operational Wave Height	2.2.2.6	SOC	N		
6	Operational Current Speed	2.2.2.7	SOC	N	-	-
7	Survival Current Speed	2.2.2.8	SOC	N	-	-
8	Maximum Buoy Tilt Angle (α)at Maximum current (Operational)	2.2.2.9	SD	**Y**	$\alpha \leq 3.5^{\circ}$ (10 pts) $3.5^{\circ} < \alpha \leq 6^{\circ}$ (5 pts) $\alpha > 6^{\circ}$ (0 pts)	10
9	Humidity	2.2.2.10	SOC	N	-	-
10	Salt Air and Seawater Spray	2.2.2.11	SOC	N	-	-
11	Ultraviolet (UV) Exposure	2.2.2.12	SOC	N	-	-
12	Marine Growth	2.2.2.13	SOC	N	-	-
13	Ice Exposure	2.2.2.14	SOC	N	-	-
14	Impact Resistance	2.2.2.15	SD/STD	**Y**	Actual Lab Test (15 pts) Calculated results (10 pts) Failure to prove results or no submission of data (0 pts)	15
15	Maintenance/ Repairability	2.2.3.2	SD	**Y**	yes (10 pts) no (0 pts)	10

16	Buoy Storage	2.2.3.3	SOC	N	-	-
17	Life Expectancy	2.2.4	SOC	N	-	-
18	Buoy Type	2.2.5.4	SOC	N	-	-
19	Stability – Undamaged Condition	2.2.6.1	SOC	N	-	-
20	Stability – Damaged Condition	2.2.6.2	SOC	N	-	-
21	Operational Reserve Buoyancy	2.2.6.3	SOC	N	-	-
22	Material Certifications	2.3.1.2	SOC	N	-	-
23	Buoy Hull Construction	2.3.2.2	SOC	N	-	-
24	Buoy Tower Construction	2.3.2.3	SOC	N	-	-
25	Surface Finish (Plastic)	2.3.2.7	SOC	N	-	-
26	Surface Finish (Metallic)	2.3.2.8	SOC	N	-	-
27	Fasteners, Bushings and Inserts	2.3.4.3	SOC	N	-	-
28	Buoyancy Material	2.3.5.2	SOC	N	-	-
29	Colour Pigments	2.3.6.1	SOC	N	-	-
30	Preferred CCG Color Zones	2.3.6.2	STD	**Y**	Zone 1= 20 pts, Zone 2=10 pts, other =0 pts	20
31	Ultraviolet Stabilizers	2.3.6.3	SOC	N	-	-
32	Coast Guard Markings	2.3.7.1	SOC	N	-	-
33	Identification	2.3.7.2	SOC	N	-	-
34	Operational Reserve Buoyancy Markings	2.3.7.3	SOC	N	-	-
35	Radar Reflector Marking	2.3.7.4	SOC	N	-	-
36	SWL Markings	2.3.7.6	SOC	N	-	-
37	Environmental Impact (a) Buoy Shell (b) Internal Buoyancy Material	2.3.8	SD	**Y**	a)Polyethylene 10 pts, Polyurethane= 5 other = 0 pts b) Polyethylene 10 pts, Polystyrene =7 pts, Polyurethane= 5 pts, other = 0 pts	10 10

38	Maximum Marine Growth (Operational)	A.2.1.27/ A.2.2.27	SOC	N	-	-
					Total	75