RETURN BIDS TO:
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Bid Receiving - Environment and Climate Change Canada / Réception des soumissions – Environnement et changement climatique Canada

Electronic Copy:
soumissionsbids@ec.gc.ca

BID SOLICITATION AMENDMENT
MODIFICATION DE LA DEMANDE DE SOUMISSIONS

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

La demande de soumissions citée en référence est modifiée dans ce document; sauf indication contraire, les modalités de la demande de soumissions demeurent les mêmes.

Title – Titre
Analysis of Priority Chemicals in Canadian Aquatic Biota

EC Bid Solicitation No./SAP PR No. - N° de la demande de soumissions EC / N° SAP PR	**Amendment No. - N° de modif.**
5000060464	004

Date of Bid Solicitation (YYYY-MM-DD) – Date de la demande de soumissions (AAAA-MM-JJ)

2021-12-03

Bid Solicitation Closes (YEAR-MM-DD) - La demande de soumissions prend fin (AAAA-MM-JJ)	**Time Zone – Fuseau horaire**
at – à 2:00 P.M. **on – le 2022-02-01**	Eastern Standard Time

F.O.B – F.A.B

See herein

Address Enquiries to - Adresser toutes questions à
Samantha Hatzinikou
samantha.hatzinikou@ec.gc.ca

Telephone No. – No de téléphone	**Fax No. – No de Fax**

Delivery Required (YEAR-MM-DD) – Livraison exigée (AAAA-MM-JJ)

2022-03-31

Destination of Services / Destination des services

Ontario

Security / Sécurité

There is no security requirement associated with this requirement

The amendment to the bid solicitation is to address the enquiries received:

Response(s) (R) to Question(s) (Q):

Q1. Adherence to CFIA Regulations regarding transfer of aquatic species (fish, mollusks) for control of pathogens – link to regulation here - Aquatic animal domestic movements - Canadian Food Inspection Agency (canada.ca) is required for this work. The list of susceptible species covered by this regulation is attached, as well as regional information to determine where movement permits are required. Most fish normally monitored by ECCC National programs are on this list. Respondents to the RFP indicate an ability to perform this work under the terms of the contract and adhering to the laws of Canada.

The RFP does not identify the species, origin (watershed where the fish was caught), or whether it is subject to this regulation. For laboratories receiving fish, it is vital for closed facility status that this information is available and tracked, whether to maintain closed facility or to justify claiming exemption of the regulation based on the fish specifics. This also means that sub-contracting is likely not a viable option and requires permitting to multiple sites. The regulation, though not vigorously enforced by inspection other than at laboratories designated as closed, applies to both commercial and government labs (conducting chemical analysis on aquatic species or parts thereof, regardless of purpose of testing) including ECCC and DFO. ECCC may have documentation from CFIA which indicates that applicable pathogens are rendered inert by treatment. This documentation would allow the samples to be classified as allowable samples.

R1. We have included a list of species and watersheds where the fish may be caught as requested. We cannot provide information on whether the fish are subject to the regulation as this can only be determined by the CFIA and is partially dependent on the location of the contracting laboratory. The inclusion of permits, either for scientific collection or transport, are outside of the scope of this RFP.

Species:	Site:	Province/Territory:	Watershed:
1. Walleye, rainbow trout	Columbia River	BC	Pacific Ocean
2. Lake trout	Kusawa Lake	YK	Pacific Ocean
3. Lake trout	Great Bear Lake	NWT	Arctic Ocean
4. Lake trout	Cold Lake	AB	Hudson Bay
5. Lake trout	Lake Athabasca E	SK	Arctic Ocean
6. Lake trout	Reindeer Lake	SK	Hudson Bay
7. Walleye	Lake Diefenbaker	SK	Hudson Bay
8. Walleye	Lake Winnipeg	MB	Hudson Bay
9. Lake trout, rainbow smelt	Lake Superior	ON	Atlantic Ocean
10. Lake trout, rainbow smelt	Lake Huron	ON	Atlantic Ocean
11. Lake trout, walleye, smelt	Lake Erie	ON	Atlantic Ocean
12. Lake trout, smelt	Lake Ontario	ON	Atlantic Ocean
13. Walleye	St. Lawrence River	QC	Atlantic Ocean
14. Chain pickerel, brook trout	Kejimkujik Lake	NS	Atlantic Ocean

Q2. Overall - the amount of information requested, especially the M criteria where further clarification to the RFP cannot be requested, is enormous and will not be under the file size limitation.

R2. The amount of information required for the M criteria is not enormous and is as follows:

a) Proof of accreditation for the laboratory/laboratories
b) SOPs or detailed methods for each chemical class to include all mandatory target analytes
c) A resume showing the completion of at least one project for each of the proposed SOPs/detailed methods.
d) A set of recent (past 24 months) QA/QC results including method blanks, laboratory spikes and recoveries for all chemical classes.

Questions regarding the specifics on the M criteria;

Q3a. M1 – fine other than sub-contractors relative to CFIA regulations.

R3a. CFIA regulations do not preclude sub-contractors. The contracting lab would be responsible for any requirements to transfer samples from the contracting lab to the sub-contracting lab.

Q3b. M2 – the inclusion of peer reviewed or Government agency report links are problematic as analytical methods are not generally published in the requested detail, and generally lag the current time by 2-3 years minimum. Some of the methods requested are not that old (speciated chloroparaffins and current EPA 1633 PFAS list are 1 ½ years old, and 1 year old respectively) and would not yet have relevant publications). “A supplier” has developed EPA reference methods for 2 of the classes (PFAS and PBDEs) and “they” assume these types of links are applicable.

R3b. We have removed the requirement regarding peer reviewed publications or reports.

Q3c. M3 + M4 – Not sure if there is any difference in these two criteria. The newness of some methods (chloroparaffins for instance, some PFAS mandatory analytes) precludes this degree of experience. This seems to be a much better candidate for an R criteria, with revisions.

R3c. M3 requires the Bidder to demonstrate that it has completed at least one project reporting on mandatory Target Analytes for each of the Chemical Classes with target analytes listed in Appendix A in biota samples within the last 60 months. This has been clarified in the wording.

M4 has been removed as it is already being appraised in the Point Rated Criteria R2

Q3d. M6 – For some of the analyte classes, there are no PE (proficiency evaluation) for programs for any matrix, let alone tissue. For others, none have been conducted in tissue for the window indicated or were worldwide intercals for attempting to establish relevant PE programs.

R3d. This has been removed from mandatory criteria as it is addressed in the Point Rated Criteria.

Some specifics on the R criteria (limitations indicate barriers to gaining minimum point value mandatory criteria);

Q4a. R1 – No fields of accreditation have been granted for some analyte classes.

R4a. Two of those chemical classes are no longer within the scope of the RFP. All Bidders will be on equal footing in terms of accreditation

Q4b. R2 – While materially the same as M3 and M4, the amount of samples that need to be processed to garner points is greater by far for some analyte classes, while some analyte classes are new in whole or in part and would not generate enough points.

R4b. New parameters are added to analytical methods on a semi-regular basis, and we recognize this means that over a 60 month period the suite of target analytes offered in an analysis will likely evolve over time. We have therefore altered the wording of the requirement from the specific **target analyses** to the broader **chemical classes ie PBDEs, HBCDD and PFAS**. In addition, recognizing that the requested matrix, fish, is very specific, we have reduced the number of samples required to achieve points.

Q4c. R3 – 20 grams is not enough tissue for the mixture of classes required. The use of LMCL as reporting limits are not the same as EDLs, and EDLs are not applicable to all analysis if calibration is not linear (UPLC or LC MS/MS is usually 1/x2 or quadratic). Further, the requested EDLs for polychlorinated paraffins needed to produce SCCP, MCCP, LCCP are not possible due to the variation of concentration by compound in the technical mixtures needed to produce those results. The PBDE EDL request seems to be approx. 1000X that normally used by ECCC and published in EPA 1614 (the only reference method for PBDEs in tissue). For the provision of up to 200 samples (last 10 batches results) very few of the reporting limit conventions used for other clients would align to this RFP request.

R4c. Regarding “20 grams is not enough tissue for the mixture of classes required”:
The amount specified is per chemical class not for all the chemical classes combined however, the amount has been increased to 50 grams.

Regarding “The use of LMCL as reporting limits are not the same as EDLs, and EDLs are not applicable to all analysis if calibration is not linear (UPLC or LC MS/MS is usually 1/x2 or quadratic)”:
The wording has been altered to request Reporting Limit, defined as the lowest concentration at which an analyte can be detected in a sample and its concentration can be quantified and reported with a reasonable degree of accuracy and precision.

Regarding: “Further, the requested EDLs for polychlorinated paraffins needed to produce SCCP, MCCP, LCCP are not possible due to the variation of concentration by compound in the technical mixtures needed to produce those results.”:
Chlorinated paraffins have been removed from the list of requested Chemical Classes.

Regarding “The PBDE EDL request seems to be approx. 1000X that normally used by ECCC and published in EPA 1614 (the only reference method for PBDEs in tissue). For the provision of up to 200 samples (last 10 batches results) very few of the reporting limit conventions used for other clients would align to this RFP request”:
The Data Quality Objective for PBDEs has been returned to 0.1 ng/g as per the previous RFP.

Q4d. R4 – Same comment as R3 with regards to displaying reported data – it will not be in the format requested. The scoring matrix attachments (part 4 and 5) should prevent any more than 50% of points awarded, as there is considerable variation in required reporting formats and detection limits and these vary considerably by analyte within each class.

R4d. The Bidder must supply tabulated method blank data, from the last 10 batches of low level biota samples, for all chemical Classes listed. The Bidder is not required to format the data into the scoring sheet. The data however must be presented as “tabular”; and it must clearly identify analyte data for the method blank, as defined in R4.

Q4e. R5 - the use of surrogates to needs to be specified (monitoring of extraction efficiency or use in isotope dilution quantification). For the analyte classes specified , a number have no CRMs or SRMs though all labs performing the analysis would have internal laboratory control samples) and those that do have CRMs or SRMs do not cover the number of analytes astericked as mandatory. We cannot discern any difference between method spikes and laboratory spikes (all spikes should be full method, isotope dilution processes have this for every sample.

R4e. There is no expectation CRMs or SRMs would exist for all target analytes; it is for Chemical Classes only. We have altered the scoring to allow for the fact that not all methods employ the same quantification or QAQC process, or may have CRMs and SRMs. We have removed chlorinated paraffins from the list, eliminating a class with no CRMs. We clarified the text to point to the use of stable isotope surrogates for isotope dilution quantification. This was our intent and the original text did not make this clear. We have changed the wording to method and matrix spikes.

Q4f. R6 - The specs. provided do not seem to be appropriate for the analyte classes listed. The recoveries for isotope dilution processes should include native recoveries and surrogate recoveries in OPR samples, and these will be wider than 80-120, if only because they are set based mean plus standard deviations. The addition of surrogates to client samples and method blanks to will also have wider ranges than 80-120. EPA 1600 series methods may be checked to confirm this

R4f. Acceptable recoveries have been expanded to 70%-130% to align with more common laboratory standards. QA/QC samples, specifically spiked blank and matrix control samples, are being evaluated to assess extraction efficiency and recovery, not client samples. Stable isotope internal standards used for client sample quantification by the isotope dilution method will be excluded from this evaluation a)because their function is for analyte quantification not recovery or extraction efficiency b) because it would exclude laboratories that do not employ the isotope dilution method.

Q4g. R8 – Not enough of the analyte classes have PE programs for any lab to gain more than 50% of points

R4g. Inter-laboratory round robins will be assessed if no official PE program exists. Noting that COVID has reduced the number of PE programs and inter-laboratory round robins over the past 24 months, the time period of R8 has been extended to 72 months. Two of the chemical classes have been removed. If there are no PE programs or round robin inter-laboratory comparisons for a chemical class all Bidders will be on equal footing.

The bid solicitation is amended as follows:

At page 1, Bid Solicitation Closes:

Delete: on – le 2022-01-27
Insert: on – le 2022-02-01

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

Delete:

4.1.1.2 Point Rated Technical Criteria

Bidders must obtain a minimum overall score of 75 points in order for its proposal to be considered responsive.

Point Rated Technical Criteria is included in Annex Attachment 1 to Part 4.

Insert:

4.1.1.2 Point Rated Technical Criteria

Bidders must obtain a minimum overall score of 71 points in order for its proposal to be considered responsive.

Point Rated Technical Criteria is included in Annex Attachment 1 to Part 4.

ATTACHMENT "1" TO PART 4
MANDATORY TECHNICAL CRITERIA AND POINT RATED TECHNICAL CRITERIA

Delete:

Mandatory Technical Criteria:

No.	Mandatory Technical Criteria	Compliant (Yes/No)	Proposal Page No.
M1	The Bidder must demonstrate that it and/or its proposed subcontractors meet the following: The Bidder must have accreditation obtained from an accrediting body that is signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Agreement ILAC MRA, using the internationally recognized criteria and procedures outlined in ISO/IEC 17025: (General requirements for Competence of Calibration and Testing Laboratories).		
M2	The Bidder must demonstrate that it and/or its proposed subcontractors meet the following: The Bidder must provide standard operating procedures (SOPs) and/or detailed method descriptions for the analyses of the chemical classes listed in Annex A1, Chemical Classes with Target Analytes. The SOPs and/or methods provided must generate quantified concentrations in biota for all target analytes marked with an asterisk (*). Bidder must provide links to peer reviewed publications or reports to support the proposed SOPs and/or detailed method descriptions.		
M3	The Bidder must demonstrate that it and/or its proposed subcontractors meet the following: The Bidder must prove it can provide analytical results for all target analytes marked with an asterisk (*) in biota samples as listed in Annex A1- Chemical Classes with Target Analytes. Bidder must document at least one project for each of PBDEs, PFAS and HBCDD in biota that have been completed over the past 60 months at date of bid closing for organic contaminants in biota that includes all target analytes.		
M4	The Bidder must demonstrate that it and/or its proposed subcontractors meet the following: Bidder must provide a company resume demonstrating projects that have been completed over the past 60 months at date of bid closing for ultra trace analysis of organic contaminants in aquatic biota, to show at least 3 years of experience.		
M5	The Bidder must demonstrate that it and/or its proposed subcontractors meet the following: The Bidder must provide proof of lab performance with biota with the submission of a set of recent (past 24 months at date of bid closing) laboratory method blank results, for all chemical classes, including the recovery of surrogates.		

M6	The Bidder must demonstrate that it and/or its proposed subcontractors meet the following: The Bidder must demonstrate experience in Performance Evaluation (PE) Testing for all chemical classes where PE testing is available. The Bidder must provide the results of laboratory performance evaluations conducted for chemical classes listed in Annex A1, Chemical Classes with Target Analytes in biota over the last 36 months at date of bid closing unless a Performance Evaluation Test is not available for a chemical class, ie such as for polychlorinated paraffins.		

Insert:

Mandatory Technical Criteria:

No.	Mandatory Technical Criteria	Compliant (Yes/No)	Proposal Page No.
M1	The Bidder must demonstrate that it and/or its proposed subcontractors meet the following: The Bidder must have accreditation obtained from an accrediting body that is signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Agreement ILAC MRA, using the internationally recognized criteria and procedures outlined in ISO/IEC 17025: (General requirements for Competence of Calibration and Testing Laboratories).		
M2	The Bidder must demonstrate that it and/or its proposed subcontractors meet the following: The Bidder must provide standard operating procedures (SOPs) and/or detailed method descriptions for the analyses of the chemical classes listed in Annex A1, Chemical Classes with Target Analytes. The SOPs and/or methods provided must generate quantified concentrations in biota for all target analytes marked with an asterisk (*).		
M3	The Bidder must demonstrate that it and/or its proposed subcontractors meet the following: The Bidder must prove it can provide analytical results for all target analytes marked with an asterisk (*) in biota samples as listed in Annex A1- Chemical Classes with Target Analytes. Bidder must document at least one project for each of PBDEs, PFAS and HBCDD in biota that have been completed over the past 60 months at date of bid closing for organic contaminants in biota that includes all target analytes.		
M4	The Bidder must demonstrate that it and/or its proposed subcontractors meet the following: The Bidder must provide proof of lab performance with biota with the submission of a set of recent (past 24 months at date of bid closing) QA/QC results including laboratory method blanks and spikes, for all chemical classes, including the recovery of surrogates.		

Point Rated Technical Criteria:

Delete:

No.	Point-Rated Technical Criteria:	Points Awarded
R1	The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Accreditation for the analysis of per- and polyfluoroalkyl substances, polybrominated diphenyl ether congeners, hexabromocyclododecane isomers, and halogenated flame retardants, polychlorinated paraffins in biota samples, as listed in Annex A1, Chemical Classes with Target Analytes. Bidders should submit copies of scopes of accreditation (ISO/IEC 17025 or equivalent) for the analysis of the chemical classes of interest. Accreditation in other media will not be considered. 2 points for each chemical class up to 10 points	/10
R2	The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Experience in analyzing fish homogenate samples for the target analytes of interest, as listed in Annex A1, Chemical Classes with Target Analytes, over a range of concentrations, as would be encountered in Canadian fish. Bidders should submit a summary of previous relevant work, defined as analysis of fish homogenate samples, conducted in the past 60 months at date of bid closing. Bidders should complete the Summary of Work Table found in Attachment 2 to Part 4. Up to 30 points in accordance with the Scoring Matrix found in Attachment 2 to Part 4.	/30
R3	The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Ability to achieve appropriate detection limits with 50 grams (or less) biota samples that will meet the data quality objectives using low point calibration and laboratory blanks. Blank correction or subtractions for determination of sample concentration are not to be used. Bidders should provide tabulated Estimated Detection Limits (EDLs), defined as 2.5:1 signal to noise ratio in real samples, for the field samples reported from the last 10 batches of biota samples prior to the posting of this RFP (1 R per analyte). EDLs should be <u>as reported to a client</u> for the target analytes within each chemical class listed in Annex A1, Chemical Classes with Target Analytes. Refer to the Data Quality Objectives found in Attachment 3 to Part 4, Data Quality Objectives. Note: To limit the number of comparisons between bids for all congeners of PBDEs scoring for R3 will be based on 5 congeners (BDE-47, -99, -100, -153, and -154). For Per- and polyfluoroalkyl substances (PFAS), substances scoring for R3 will be based on PFOS, PFOA, PFNA, PFDA, PFUnA). For Halogenated flame retardants scoring will be for *Dechlorane Plus (DP; Anti and Syn)*,	/30

	Dechlorane (+602, 603, 604). All scoring for R3 for other target analytes will be based on mandatory compounds (indicated with an * in Annex A1, Chemical Classes with Target Analytes.) Up to 30 points in accordance with the Scoring Matrix found in Attachment 4 to Part 4, Data Quality Objectives. The scoring for each chemical class will be based on the total score for all analytes divided by the number of analytes (rounded to the nearest first decimal place for each calculation). In a scenario where an analyte was not analyzed by a bidder in a chemical class, zero will be given for any analyte not provided, so if there are 100 and a bidder provides 90, the number of analytes remains 100 so X/100 rather than X/90. See example scoring sheet in Attachment 4 to Part 4.	
R4	The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Ability to achieve appropriate method blank concentrations to meet data quality objectives. Blank correction or subtractions for determination of sample concentration are not to be used. A method blank is defined as an analyte free matrix, such as solvent, carried through the complete preparation and analytical procedure for the each chemical class. Blanks: Bidders should provide tabulated laboratory method blank data provided for a project (or projects) which provided analysis for low level biota samples from the prior 10 batches and as reported to a client prior to bid closing for the target analytes listed in Annex A1, Chemical Classes with Target Analytes. Blanks must be from analytical batches containing biota samples. Refer to the Data Quality Objectives found in Attachment 3 to Part 4, Data Quality Objectives. Notes: To limit the number of comparisons between bids for all congeners of PBDEs scoring for R4 will be based on 5 congeners (BDE-47, -99, -100, -153, and -154). For PFAS substances scoring for R4 will be based on PFOS, PFNA, PFDA, and PFUnA). For Halogenated flame retardants scoring will be for *Dechlorane Plus (DP; Anti and Syn)*, Dechlorane (+602, 603). All scoring for R4 for other target analytes will be based on mandatory compounds (indicated with an * in Annex A1, Chemical Classes with Target Analytes.) Scoring will be as follows, for each replicate of each analyte within a chemical class, full marks (6) will be given to method blanks which are less than the Data Quality Objective. Partial marks (2), will be given to blanks which are non-detect but the detection limit is above the Data Quality Objective. The scoring for each chemical class will be based on the average for all replicates rounded to the nearest first decimal place. In a scenario where an above analyte was not analyzed by a bidder in a chemical class, zero will be given for any analyte not provided, so if there are 100 and a bidder provides 90, the number of analytes remains 100 so X/100 rather than X/90. Up to 30 points in accordance with the Scoring Matrix found in below. See example scoring Matrix in Attachment 5 to Part 4.	/30

R5

The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Extent of the use of surrogate spikes, as well as Certified Reference Material (CRMs) and Standard Reference Material (SRMs). Preference will be given for methodologies that utilize ^{13}C or other stable isotope labelled surrogates to assess and ensure data quality.

Bidders should identify all surrogates, CRMs & SRMs to be used in the analyses for each chemical class in the matrix specified per Annex A1, Chemical Classes with Target Analytes identified as mandatory with a (*).

Up to 10 points in accordance with the Scoring Matrix found below.

/10

Scoring Matrix:

10 points	**5 points**	**2 points**	**0**
Isotope dilution Internal C^{13} - External spike			
CRM - SRM	CRM - SRM		
Method spikes	Method spikes	Method spikes	No information
Laboratory spikes	Laboratory spikes	Laboratory spikes	

R6

The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Percent recovery between 80 and 120% for surrogate and native spikes in spiked blank and matrix control samples.

Bidders should provide tabulated recovery of surrogate spikes and reported values for spiked blank and matrix control samples as reported to the client for the last 10 batches of biota prior to bid closing for the chemical classes listed in Annex A1, Chemical Classes with Target Analytes. Bidders can provide on-going recovery and precision specifications (OPR) and data used to produce initial precision and accuracy (IPR) for evaluation of this criteria.

/20

Up to 20 points in accordance with the Scoring Matrix. See example scoring Matrix in Attachment 6 to Part 4. The scoring for each chemical class will be based on the average for all replicates rounded to the nearest first decimal place. In a scenario where representative surrogates for each chemical class as per method SOP was not analyzed by a bidder in a chemical class, zero will be given for any analyte not provided, so if there are 100 and a bidder provides 90, the number of analytes remains 100 so X/100 rather than X/90.

R7

The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Additional points awarded to the inclusions of additional, non-mandatory analytes for chemical classes PFAS, Polychlorinated Parraffins and Halogenated Flame retardants. 1 point for each non-mandatory target analyte (Annex A1, Chemical Classes with Target Analytes), with a maximum of 5 for each of the 3 chemical classes listed.

For Halogenated Flame Retardants and Polychlorinated Parrafins this may refer to target analytes in Annex A1, Chemical Classes with Target Analytes which are NOT listed as mandatory (i.e. not marked with a *). For Per- and polyfluoroalkyl substances, the number of potential target analytes are too numerous to list.

/15

Up to 15 points in accordance with the Scoring Matrix found below.

Scoring Matrix:

	Non-mandatory analytes within:	Five or more non-mandatory analytes	One point for each non-mandatory analyte up to 4	Zero non-mandatory analytes	
	PFAS	5	1 - 4	0	
	Polychlorinated paraffins	5	1 - 4	0	
	Halogenated flame retardants	5	1 - 4	0	
R8	The performance evaluations for all chemical classes listed in Annex A1, Chemical Classes with Target Analytes in biota over the last 36 months from date of bid closing provided for M6 will be assessed and points will be awarded based on the following: 2 points will be awarded for proficiency test/round robin results with no failures for each chemical class. 1 point will be awarded for each proficiency test /round robin with <50% failures for each chemical class. Up to a maximum of 10 points				/10
				Total	**/155**
				Minimum Score	**75**

Insert:

No.	Point-Rated Technical Criteria:	Points Awarded
R1	The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Accreditation for the analysis of per- and polyfluoroalkyl substances, polybrominated diphenyl ether congeners, and hexabromocyclododecane isomers in biota samples, as listed in Annex A1, Chemical Classes with Target Analytes. Bidders should submit copies of scopes of accreditation (ISO/IEC 17025 or equivalent) for the analysis of the chemical classes of interest. Accreditation in other media will not be considered. 3 points for each chemical class up to 9 points	/9
R2	The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Experience in analyzing fish homogenate samples for per- and polyfluoroalkyl substances, polybrominated diphenyl ether congeners, and hexabromocyclododecanes over a range of concentrations, as would be encountered in Canadian fish. Bidders should submit a summary of previous relevant work, defined as analysis of fish homogenate samples, conducted in the past 60 months at date of bid closing. Bidders should complete the Summary of Work Table found in Attachment 2 to Part 4.	/30

	Up to 30 points in accordance with the Scoring Matrix found in Attachment 2 to Part 4.	
R3	The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Ability to achieve appropriate reporting limits with 50 grams (or less) biota samples that will meet the data quality objectives using low point calibration and laboratory blanks. Blank correction or subtractions for determination of sample concentration are not to be used. Bidders should provide tabulated Reporting Limits (RLs), (1 RL per analyte). Reporting Limit is defined as the lowest quantity that is reliably reported by the laboratory. RLs should be as reported to a client for the target analytes within each chemical class listed in Annex A1, Chemical Classes with Target Analytes. Refer to the Data Quality Objectives found in Attachment 3 to Part 4, Data Quality Objectives. Note: To limit the number of comparisons between bids scoring for R3 for PBDEs will be based on 5 congeners (BDE-47, -99, -100, -153, and -154). Scoring for Per- and polyfluoroalkyl substances (PFAS), substances scoring for R3 will be based on PFOS, PFOA, PFNA, PFDA, PFUnA. Scoring for HBCDDs will be for α-HBCDD, *β-HBCDD, and γ-HBCDD.* Up to 30 points in accordance with the Scoring Matrix found in Attachment 4 to Part 4, Data Quality Objectives. The scoring for each chemical class will be based on the total score for all analytes divided by the number of analytes (rounded to the nearest first decimal place for each calculation). In a scenario where an analyte was not analyzed by a bidder in a chemical class, zero will be given for any analyte not provided, so if there are 100 and a bidder provides 90, the number of analytes remains 100 so X/100 rather than X/90. See example scoring sheet in Attachment 4 to Part 4.	/30
R4	The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Ability to achieve appropriate method blank concentrations to meet data quality objectives. Blank correction or subtractions for determination of sample concentration are not to be used. A method blank is defined as an analyte free matrix, such as solvent, carried through the complete preparation and analytical procedure for the each chemical class. Blanks: Bidders should provide tabulated laboratory method blank data provided for a project (or projects) which provided analysis for low level biota samples from the prior 10 batches and as reported to a client prior to bid closing for the target analytes listed in Annex A1, Chemical Classes with Target Analytes. Blanks must be from analytical batches containing biota samples. Refer to the Data Quality Objectives found in Attachment 3 to Part 4, Data Quality Objectives. Notes: To limit the number of comparisons between bids for all congeners of PBDEs scoring for R4 will be based on 5 congeners (BDE-47, -99, -100, -153, and -154). For PFAS substances scoring for R4 will be based on PFOS, PFNA, PFDA, and PFUnA). Scoring for HBCDDs will be for α-HBCDD, *β-HBCDD, and γ-HBCDD.* Scoring will be as follows, for each replicate of each analyte within a chemical class, full marks (6) will be given to method blanks which are less than the Data Quality Objective. Partial marks (2), will be given to blanks which are non-detect but the detection limit is above the Data Quality Objective. The scoring for each chemical class will be based on the average for all replicates rounded to the nearest first decimal place. In a scenario where an above analyte was not analyzed by a bidder in a chemical class, zero will be given for any analyte not provided, so if	/30

<table>
<tr><td></td><td>there are 100 and a bidder provides 90, the number of analytes remains 100 so X/100 rather than X/90.

Up to 30 points in accordance with the Scoring Matrix found in below. See example scoring Matrix in Attachment 5 to Part 4.</td><td></td></tr>
<tr><td>R5</td><td>The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Extent of the use of surrogate spikes, as well as Certified Reference Material (CRMs) and Standard Reference Material (SRMs). Preference will be given for methodologies that utilize ^{13}C or other stable isotope labelled surrogates as internal standards for quantification by isotope dilution.

Bidders should identify all surrogates, CRMs & SRMs to be used in the analyses for each chemical class, PBDEs, HBCDDs and PFAS, in biota.

Up to 12 points in accordance with the Scoring Matrix found below.
<u>Scoring Matrix:</u>
<table>
<tr><th>Chemical Class</th><th>Isotope Dilution Quantification</th><th>CRM - SRM</th><th>Method and matrix spikes</th></tr>
<tr><td>PBDEs</td><td>2</td><td>1</td><td>1</td></tr>
<tr><td>HBCDD</td><td>2</td><td>1</td><td>1</td></tr>
<tr><td>PFAS</td><td>2</td><td>1</td><td>1</td></tr>
</table></td><td>/12</td></tr>
<tr><td>R6</td><td>The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Percent recovery between 70 and 130% for surrogate and native spikes in spiked blank and matrix control samples.

Bidders should provide tabulated recovery of surrogate and native spikes used to assess accuracy and recovery and reported values for spiked blank and matrix control samples as reported to the client for the last 10 batches of biota prior to bid closing for PBDEs, HBCDDs and PFAS. For stable isotope dilution quantification, native spikes will be used to assess accuracy and recovery. Bidders can provide on-going recovery and precision specifications (OPR) and data used to produce initial precision and accuracy (IPR) for evaluation of this criteria.

Up to 15 points in accordance with the Scoring Matrix. See example scoring Matrix in Attachment 6 to Part 4. The scoring for each chemical class will be based on the average for all replicates rounded to the nearest first decimal place. In a scenario where representative surrogates for each chemical class as per method SOP was not analyzed by a bidder in a chemical class, zero will be given for any analyte not provided, so if there are 100 and a bidder provides 90, the number of analytes remains 100 so X/100 rather than X/90.</td><td>/15</td></tr>
<tr><td>R7</td><td>The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Additional points awarded to the inclusions of additional, non-mandatory analytes for chemical classes PFAS and PBDEs. 1 point for each non-mandatory target analyte (Annex A1, Chemical Classes with Target Analytes), with a maximum of 5 for each of the 2 chemical classes listed.

For PBDEs this may refer to target analytes in Annex A1, Chemical Classes with Target Analytes which are NOT listed as mandatory (i.e. not marked with a *). For Per- and polyfluoroalkyl substances, the number of potential target analytes are too numerous to list.</td><td>/10</td></tr>
</table>

	Up to 10 points in accordance with the Scoring Matrix found below. Scoring Matrix:	

Non-mandatory analytes within:	Five or more non-mandatory analytes	One point for each non-mandatory analyte up to 4	Zero non-mandatory analytes
PFAS	5	1 - 4	0
PBDE	5	1 - 4	0

R8	The Bidder should demonstrate that it and/or its proposed subcontractors meet the following: Effectiveness of quality control program as demonstrated in performance evaluation studies for PBDEs, PFAS and HBCDDs. *The Bidder should provide a list of all performance evaluation studies and scores within the last 72 months for PDBEs, PFAS and HBCDDs.* 2 points will be awarded for proficiency test/round robin results with no failures for each chemical class. 1 point will be awarded for each proficiency test /round robin with <50% failures for each chemical class. Up to a maximum of 6 points	/6
	Total	**/142**
	Minimum Score	**71**

ATTACHMENT 2 TO PART 4
SUMMARY OF WORK TABLE AND SCORING MATRIX FOR R2

Delete:

Summary of Work Table

Chemical Class	Matrix	#projects	#samples analysed	Page reference to supporting information in bid documents
PFAS	Fish			
Polychlorinated paraffins	Fish			
PBDE congeners	Fish			
HBCDD isomers	Fish			
Halogenated flame retardants	Fish			

Rating Experience Criteria - Benchmarks

Extensive □ >2000 samples
Good □1000 and ≤1999 samples
Minimal □ 300 and ≤999 samples

Scoring Matrix

Chemical Class	Matrix	Extensive	Good	Minimal	<Minimal
PFAS	Fish	5	3	0.5	0
Polychlorinated paraffins	Fish	3	2	0.5	0
PBDE congeners	Fish	10	6	1	0
HBCDD isomers	Fish	7	4	0.5	0
Halogenated flame retardants	Fish	5	3	0.5	0

Insert:

Summary of Work Table

Chemical Class	Matrix	#projects	#samples analyzed	Page reference to supporting information in bid documents
PFAS	Fish			
PBDE congeners	Fish			
HBCDD isomers	Fish			

Rating Experience Criteria - Benchmarks

Extensive □ >1000 samples
Good □ 1000 to 300 samples
Minimal □ 299 to 99 samples

Scoring Matrix

Chemical Class	Matrix	Extensive	Good	Minimal	<Minimal
PFAS	Fish	8	4	1	0
PBDE congeners	Fish	14	7	2	0
HBCDD isomers	Fish	8	4	1	0

ATTACHMENT 3 TO PART 4
DATA QUALITY OBJECTIVES FOR R3 AND R4

Delete:

Data Quality Objectives:

Chemical Class	EDL (per compound)
Per- and polyfluoroalkyl substances	≤ 1.0 ng/g wet weight
Polybrominated diphenyl ether congeners	≤ 0.1 ng/g wet weight
Hexabromocyclododecane isomers	≤ 0.3 ng/g wet weight
Polychlorinated Paraffins	≤ 10.0 ng/g wet weight
Halogenated flame retardants	≤ 1.0 ng/g wet weight

Note: To limit the number of comparisons between bids for all congeners of PBDEs scoring for R3 and R4 will be based on 5 congeners (BDE-47, -99, -100, -153, and -154). For PFAS substances scoring for R3 and R4 will be based on PFOS, PFOA, PFNA, PFDA, and PFUnA). For Halogenated flame retardants scoring for R3 and R4 will be for *Dechlorane Plus (DP; Anti and Syn)*, Dechlorane (+602, 603, 604). All scoring for R3 and R4 for other target analytes will be based on mandatory analytes (indicated with an * in Annex A1, Chemical Classes with Target Analytes.)

Insert:

Data Quality Objectives:

Chemical Class	RL (per compound)
Per- and polyfluoroalkyl substances	≤ 1.0 ng/g wet weight
Polybrominated diphenyl ether congeners	≤ 0.1 ng/g wet weight
Hexabromocyclododecane isomers	≤ 0.3 ng/g wet weight

Note: To limit the number of comparisons between bids for all congeners of PBDEs scoring for R3 and R4 will be based on 5 congeners (BDE-47, -99, -100, -153, and -154). For PFAS substances scoring for R3 and R4 will be based on PFOS, PFOA, PFNA, PFDA, and PFUnA. Scoring for hexabromocyclododecanes will be for α-HBCDD, *β-HBCD, and γ-HBCD.*

ATTACHMENT 4 TO PART 4
SCORING MATRIX AND EXAMPLE SCORING SHEET FOR R3

The scoring for each chemical class will be based on the total score for all analytes divided by the number of analytes (rounded to the nearest first decimal place for each calculation). See example scoring sheet below.

Delete:

Scoring Matrix for R3:

Chemical class	EDL<=DQO	EDL>DQO
PFAS	6	0
Polychlorinated paraffins	6	0
PBDE congeners	6	0
HBCDD isomers	6	0
Halogenated flame retardants	6	0

Example Scoring Sheet for HBCDD Isomers

HBCDD isomer	DQO (ng/g)	EDL provided ng/g	Score
alpha-HBCDD	0.3	0.32	0
beta-HBCDD	0.3	0.2	6
gamma-HBCDD	0.3	0.15	6
Total score			12
Score for HBCDD isomers			**4.0 out of 6.0**

Insert:

Scoring Matrix for R3:

Chemical class	RL<=DQO	RL>DQO
PFAS	10	0
PBDE congeners	10	0
HBCDD isomers	10	0

Example Scoring Sheet for HBCDD Isomers

HBCDD isomer	DQO (ng/g)	RL provided ng/g	Score
alpha-HBCDD	0.3	0.32	0
beta-HBCDD	0.3	0.2	10
gamma-HBCDD	0.3	0.15	10
Total score			20
Score for HBCDD isomers			**6.7 out of 10.0**

ATTACHMENT 5 TO PART 4
SCORING MATRIX AND EXAMPLE SCORING SHEET FOR R4

The scoring for each chemical class will be based on the total score for all analytes divided by the number of analytes (rounded to the nearest first decimal place for each calculation). See example scoring sheet below.

Delete:

Scoring Matrix for R4:

Chemical class	Method blank <DQO	Method blank not detected but >DQO	Not provided or method Blank>DQO
PFAS	6	2	0
PBDE congeners	6	2	0
Polychlorinated paraffins	6	2	0
HBCDD isomers (alpha-, beta-, gamma-)	6	2	0
Halogenated flame retardants	6	2	0

Example Scoring Sheet for HBCDD Isomers

HBCDD isomer	DQO (ng/g)	Blank ng/g	Score
alpha-HBCDD rep 1	0.3	< 0.25	6
alpha-HBCDD rep 2	0.3	3.1	0
alpha-HBCDD rep 3	0.3	< 3.5	2
alpha-HBCDD rep 4	0.3	0.12	6
alpha-HBCDD rep 5	0.3	0.009	6
alpha-HBCDD rep 6	0.3	<0.25	6
alpha-HBCDD rep 7	0.3	< 3.5	2
alpha-HBCDD rep 8	0.3	0.19	6
alpha-HBCDD rep 9	0.3	<0.25	6
alpha-HBCDD rep 10	0.3	<5.0	2
beta-HBCDD rep 1	0.3	0.32	0
beta-HBCDD rep 2	0.3	0.2	6
beta-HBCDD rep 3	0.3	0.15	6
beta-HBCDD rep 4	0.3	0.29	6
beta-HBCDD rep 5	0.3	<0.15	6
beta-HBCDD rep 6	0.3	0.5	0
beta-HBCDD rep 7	0.3	0.85	0
beta-HBCDD rep 8	0.3	<0.8	2
beta-HBCDD rep 9	0.3	0.29	6
beta-HBCDD rep 10	0.3	0.48	0
gamma-HBCDD rep 1	0.3	0.16	6
gamma-HBCDD rep 2	0.3	<0.1	6
gamma-HBCDD rep 3	0.3	0.14	6
gamma-HBCDD rep 4	0.3	0.16	6
gamma-HBCDD rep 5	0.3	0.15	6
gamma-HBCDD rep 6	0.3	<0.19	6
gamma-HBCDD rep 7	0.3	0.98	0
gamma-HBCDD rep 8	0.3	<0.19	6
gamma-HBCDD rep 9	0.3	0.67	0
gamma-HBCDD rep 10	0.3	<0.45	2
Total score			118/ 30

Score for HBCDD isomers			**3.9 out of 6.0**

Insert:

Scoring Matrix for R4:

Chemical class	Method blank <DQO	Method blank not detected but >DQO	Not provided or method Blank>DQO
PFAS	10	3	0
PBDE congeners	10	3	0
HBCDD isomers (alpha-, beta-, gamma-)	10	3	0

Example Scoring Sheet for HBCDD Isomers

HBCDD isomer	**DQO (ng/g)**	**Blank ng/g**	**Score**
alpha-HBCDD rep 1	0.3	< 0.25	10
alpha-HBCDD rep 2	0.3	3.1	0
alpha-HBCDD rep 3	0.3	< 3.5	3
alpha-HBCDD rep 4	0.3	0.12	10
alpha-HBCDD rep 5	0.3	0.009	10
alpha-HBCDD rep 6	0.3	<0.25	10
alpha-HBCDD rep 7	0.3	< 3.5	3
alpha-HBCDD rep 8	0.3	0.19	10
alpha-HBCDD rep 9	0.3	<0.25	10
alpha-HBCDD rep 10	0.3	<5.0	3
beta-HBCDD rep 1	0.3	0.32	0
beta-HBCDD rep 2	0.3	0.2	10
beta-HBCDD rep 3	0.3	0.15	10
beta-HBCDD rep 4	0.3	0.29	10
beta-HBCDD rep 5	0.3	<0.15	10
beta-HBCDD rep 6	0.3	0.5	0
beta-HBCDD rep 7	0.3	0.85	0
beta-HBCDD rep 8	0.3	<0.8	3
beta-HBCDD rep 9	0.3	0.29	10
beta-HBCDD rep 10	0.3	0.48	0
gamma-HBCDD rep 1	0.3	0.16	10
gamma-HBCDD rep 2	0.3	<0.1	10
gamma-HBCDD rep 3	0.3	0.14	10
gamma-HBCDD rep 4	0.3	0.16	10
gamma-HBCDD rep 5	0.3	0.15	10
gamma-HBCDD rep 6	0.3	<0.19	10
gamma-HBCDD rep 7	0.3	0.98	0
gamma-HBCDD rep 8	0.3	<0.19	10
gamma-HBCDD rep 9	0.3	0.67	0
gamma-HBCDD rep 10	0.3	<0.45	3
Total score			195 / 30
Score for HBCDD isomers			**6.5 out of 10.0**

ATTACHMENT 6 TO PART 4
SCORING MATRIX AND EXAMPLE SCORING SHEET FOR R6

Delete:

Scoring Matrix for R6:

Chemical Class:	≥ 80% spikes in range	79.9-65% spikes in range	64.9-50% spikes in range	<49.9% spikes in range
PFAS	4	2	1	0
PBDE congeners	4	2	1	0
Polychlorinated paraffins	4	2	1	0
HBCDD isomers (alpha-, beta-, gamma-)	4	2	1	0
Halogenated flame retardants	4	2	1	0

Example Scoring Sheet for HBCDD Isomer spiked recoveries

HBCDD isomer surrogate spikes	**% recovery**	**Spike in range 80% to 120%**
alpha-HBCDD rep 1	121	No
alpha-HBCDD rep 2	89	Yes
alpha-HBCDD rep 3	92	Yes
alpha-HBCDD rep 4	67	No
alpha-HBCDD rep 5	125	No
alpha-HBCDD rep 6	95	Yes
alpha-HBCDD rep 7	110	Yes
alpha-HBCDD rep 8	115	Yes
alpha-HBCDD rep 9	130	No
alpha-HBCDD rep 10	113	Yes
beta-HBCDD rep 1	72	No
beta-HBCDD rep 2	116	Yes
beta-HBCDD rep 3	91	Yes
beta-HBCDD rep 4	84	Yes
beta-HBCDD rep 5	78	No
beta-HBCDD rep 6	108	Yes
beta-HBCDD rep 7	94	Yes
beta-HBCDD rep 8	86	Yes
beta-HBCDD rep 9	49	No
beta-HBCDD rep 10	102	Yes
gamma-HBCDD rep 1	122	No
gamma-HBCDD rep 2	97	Yes
gamma-HBCDD rep 3	83	Yes
gamma-HBCDD rep 4	91	Yes
gamma-HBCDD rep 5	103	Yes
gamma-HBCDD rep 6	114	Yes
gamma-HBCDD rep 7	98	Yes
gamma-HBCDD rep 8	135	No
gamma-HBCDD rep 9	91	Yes
gamma-HBCDD rep 10	86	Yes
Number of spikes within range	**21**	
Total number of spikes	**30**	
% of spikes in range	**((21/30)x100) = 70%**	
Score for HBCDD isomers	**2.0**	

Insert:

Chemical Class:	≥ 80% spikes in range	79.9-65% spikes in range	64.9-50% spikes in range	<49.9% spikes in range
PFAS	5	3	1	0
PBDE congeners	5	3	1	0
HBCDD isomers (alpha-, beta-, gamma-)	5	3	1	0

Example Scoring Sheet for HBCDD Isomer spiked recoveries

HBCDD isomer surrogate spikes	**% recovery**	**Spike in range 70% to 130%**
alpha-HBCDD rep 1	131	No
alpha-HBCDD rep 2	89	Yes
alpha-HBCDD rep 3	92	Yes
alpha-HBCDD rep 4	67	No
alpha-HBCDD rep 5	135	No
alpha-HBCDD rep 6	95	Yes
alpha-HBCDD rep 7	110	Yes
alpha-HBCDD rep 8	115	Yes
alpha-HBCDD rep 9	132	No
alpha-HBCDD rep 10	113	Yes
beta-HBCDD rep 1	68	No
beta-HBCDD rep 2	116	Yes
beta-HBCDD rep 3	91	Yes
beta-HBCDD rep 4	84	Yes
beta-HBCDD rep 5	59	No
beta-HBCDD rep 6	108	Yes
beta-HBCDD rep 7	94	Yes
beta-HBCDD rep 8	86	Yes
beta-HBCDD rep 9	49	No
beta-HBCDD rep 10	102	Yes
gamma-HBCDD rep 1	142	No
gamma-HBCDD rep 2	97	Yes
gamma-HBCDD rep 3	83	Yes
gamma-HBCDD rep 4	91	Yes
gamma-HBCDD rep 5	103	Yes
gamma-HBCDD rep 6	114	Yes
gamma-HBCDD rep 7	98	Yes
gamma-HBCDD rep 8	135	No
gamma-HBCDD rep 9	91	Yes
gamma-HBCDD rep 10	86	Yes
Number of spikes within range	**21**	
Total number of spikes	**30**	
% of spikes in range	**((21/30)x100) = 70%**	
Score for HBCDD isomers	**3.0**	

ANNEX "A"
STATEMENT OF WORK

Delete:

2.1 Chemical Classes

A: Per- and polyfluoroalkyl substances (PFAS)
B: Polybrominated diphenyl ether (PBDE) congeners
C: Hexabromocyclododecane (HBCDD) isomers
D: Polychlorinated Paraffins
E: Halogenated Flame Retardants
*. % lipid and % moisture for each sample submitted

* The results of these chemical classes should also include data on lipid and moisture content.
Given the uncertain nature of field collections and operations, ECCC cannot guarantee the number of samples that will be submitted for analysis in any given year or for any specific chemical class. The Contractor will be paid based on a per sample basis for the given number of samples submitted by ECCC, and subsequently analyzed by the Contractor.
The analytical services will include the results of analysis. The analysis will be performed on biota samples as requested for some or all of the chemical classes listed in Annex A1, Chemical Classes with Target Analytes.

Limited sample may require multiple analysis per extraction, subcontracting requires the approval of the Contracting Authority.

Method blanks and laboratory replicate analyses are to be conducted as part of Contractor's quality assurance/quality control (QA/QC) program, and not to be considered as samples submitted.

Due to the limited quantity and value of the samples covered in this contract, all analyses and method detection limits must be performed and achieved on a total sample mass not exceeding 20 grams.

Insert:

2.1 Chemical Classes

A: Per- and polyfluoroalkyl substances (PFAS)
B: Polybrominated diphenyl ether (PBDE) congeners
C: Hexabromocyclododecane (HBCDD) isomers
*. % lipid and % moisture for each sample submitted

* The results of these chemical classes should also include data on lipid and moisture content.
Given the uncertain nature of field collections and operations, ECCC cannot guarantee the number of samples that will be submitted for analysis in any given year or for any specific chemical class. The Contractor will be paid based on a per sample basis for the given number of samples submitted by ECCC, and subsequently analyzed by the Contractor.
The analytical services will include the results of analysis. The analysis will be performed on biota samples as requested for some or all of the chemical classes listed in Annex A1, Chemical Classes with Target Analytes.

Limited sample may require multiple analysis per extraction, subcontracting requires the approval of the Contracting Authority.

Method blanks and laboratory replicate analyses are to be conducted as part of Contractor's quality assurance/quality control (QA/QC) program, and not to be considered as samples submitted.

Due to the limited quantity and value of the samples covered in this contract, all analyses and method detection limits must be performed and achieved on a total sample mass not exceeding 50 grams.

ANNEX A1
CHEMICAL CLASSES WITH TARGET ANALYTES
Target analytes with * are required

Delete:

A: Per- and polyfluoroalkyl substances (PFAS)
Perfluorobutanesulfonate (PFBS) *
Perfluorobutanoate (PFBA)*
Perfluoropentanoate (PFPeA)*
Perfluorohexanesulfonate (PFHxS) *
Perluorohexanoate (PFHxA) *
Perfluoroheptanoate (PFHpA)*
Perfluorooctanesulfonate (PFOS)*
Perfluorooctanoate (PFOA)*
Perfluorononanoate (PFNA) *
Perfluorodecanoate (PFDA) *
Perfluoroundecanoate (PFUnA)*
Perfluorododecanoate (PFDoA) *
Perfluorotridecanoic acid (PFTrDA)*
Perfluorotetradecanoic acid (PFTeDA)*
Perfluoropentanesulfonic acid (PFPeS)*
Perfluoroheptanesulfonic acid (PFHpS)*
Perfluorononanesulfonic acid (PFNS)
Perfluorodecanesulfonic acid (PFDS)*
Perfluorooctane sulfonamide (PFOSA)*
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (N-EtFOSAA)*
N-Methylperfluoro-1-octanesulfonamidoacetic acid (N-MeFOSAA)*
N-Ethylperfluoro-1-octanesulfonamidoethanol (N-EtFOSE)*
Perfluoro-4-methoxybutanoate (PFMBA)*
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)*
2H, 2H, 3H, 3H-perfluorodecanoic acid (7:3 FTCA)*

B: Brominated diphenyl ethers (PBDEs)
*BDE 7**
*BDE 8**
*BDE 10**
*BDE 11**
*BDE 12**
*BDE 13**
*BDE 15**
*BDE 17**
*BDE 25**
*BDE 28**
*BDE 33**
*BDE 30**
*BDE 32**
*BDE 35**
*BDE 37**
*BDE 47**
*BDE 49**

*BDE 51**
*BDE 66**
*BDE 71**
*BDE 75**
*BDE 77**
*BDE 79**
*BDE 85**
*BDE 99**
*BDE 100**
*BDE 105**
*BDE 116**
*BDE 119**
*BDE 120**
*BDE 126**
*BDE 128**
*BDE 138**
*BDE 166**
*BDE 140**
*BDE 153**
*BDE 155**
*BDE 181**
*BDE 183**
*BDE 190**
*BDE 203**
*BDE 206**
*BDE 207**
*BDE 208**
*BDE 209**

C: Hexabromocyclododecane
*α-HBCDD**
*β-HBCDD**
*γ-HBCDD**

D: Polychlorinated Paraffins
*Total short chain polychlorinated paraffins (C10 to C13)**
*Total medium chain polychlorinated paraffins (C14 to C17)**
*Total Long Chain polychlorinated paraffins (C18 to C20)**
Individual isomer groups for each carbon chain length

E: Halogenated Flame Retardant (HFR)
*Allyl 2,4,6-tribromophenyl ether (ATE)**
*Dechlorane Plus (DP; Anti and Syn)**
*Dechlorane (+ 602, 603, 604)**
*2,3-Dibromopropyl 2,4,6-tribromophenyl ether (DPTE)**
*1,2-Bis(2,4,6-tribromophenoxy)ethane (BTBPE)**
*bis(2-ethyl-1-hexyl)tetrabromophthalate (BEHTBP)**
2-Ethylhexyl-2,3,4,5-tetrabromobenzoate (EHTeBB)
1,2,3,4,5-Pentabromobenzene (PBBe)

1,2- Dibromobenzene (DiBB)
1,4-Dibromobenzene (DiBB)
1,2,4-Tribromobenzene (TriBB)
1,2,3,5- Tetrabromobenzene (TBB)
*1,2,4,5-Tetrabromobenzene (TBB)**
Hexabromobenzene (HBB)
*Hexachlorocyclopantadienyl-dibromocyclooctane (HCDBCO)**
Pentabromotoluene (PBTo)
Pentabromoethylbenzene (PBEB)
2,3,4,5,6-Pentabromobenzylbromide (PBBB)
2,3,5,6-Tetrabromo-p-xylene (pTBX)
Tetrabromo-o-chlorotoluene (TBCT)
Octabromotrimethylphenylindane (OBIND)
Decabromodiphenylethane (DBDPE)
1,2-Dibromo-4-(1,2-dibromoethyl)cyclohexane (TBECH)

Insert:

A: Per- and polyfluoroalkyl substances (PFAS)
Perfluorobutanesulfonate (PFBS) *
Perfluorobutanoate (PFBA)*
Perfluoropentanoate (PFPeA)*
Perfluorohexanesulfonate (PFHxS) *
Perluorohexanoate (PFHxA) *
Perfluoroheptanoate (PFHpA)*
Perfluorooctanesulfonate (PFOS)*
Perfluorooctanoate (PFOA)*
Perfluorononanoate (PFNA) *
Perfluorodecanoate (PFDA) *
Perfluoroundecanoate (PFUnA)*
Perfluorododecanoate (PFDoA) *
Perfluorotridecanoic acid (PFTrDA)*
Perfluorotetradecanoic acid (PFTeDA)*
Perfluoropentanesulfonic acid (PFPeS)*
Perfluoroheptanesulfonic acid (PFHpS)*
Perfluorononanesulfonic acid (PFNS)
Perfluorodecanesulfonic acid (PFDS)*
Perfluorooctane sulfonamide (PFOSA)*
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (N-EtFOSAA)
N-Methylperfluoro-1-octanesulfonamidoacetic acid (N-MeFOSAA)
N-Ethylperfluoro-1-octanesulfonamidoethanol (N-EtFOSE)
Perfluoro-4-methoxybutanoate (PFMBA)
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)
2H, 2H, 3H, 3H-perfluorodecanoic acid (7:3 FTCA)

B: Brominated diphenyl ethers (PBDEs)
*BDE 7**
BDE 8
*BDE 10**
BDE 11
BDE 12
BDE 13

*BDE 15**
*BDE 17/25**
*BDE 28/33**
*BDE 30**
BDE 32
BDE 35
*BDE 37**
*BDE 47**
*BDE 49**
BDE 51
*BDE 66**
BDE 71
*BDE 75**
*BDE 77**
BDE 79
*BDE 85**
*BDE 99**
*BDE 100**
*BDE 105**
*BDE 116**
BDE 119
BDE 120
*BDE 126**
BDE 128
BDE 138
BDE 166
*BDE 140**
*BDE 153**
*BDE 154**
*BDE 155**
BDE 181
*BDE 183**
*BDE 190**
BDE 203
BDE 206
*BDE 207**
*BDE 208**
*BDE 209**

C: Hexabromocyclododecane
*α-HBCDD**
*β-HBCDD**
*γ-HBCDD**

ANNEX "B"
BASIS OF PAYMENT

Delete:

Initial Contract Period - Contract Award to March 31, 2022			
Chemical Class	**Quantity of Analyses (A)**	**Price per Analyses (B)**	**Price (C)** **(A)*(B)**
Aquatic Biota			
Per- and polyfluoroalkyl substances (PFAS)	80	$_____	$_____
Brominated diphenyl ethers (PBDEs)	40	$_____	$_____
Hexabromocyclododecane	20	$_____	$_____
Polychlorinated Paraffins	10	$_____	$_____
Halogenated Flame Retardant (HFR)	10	$_____	$_____
Total Price for Initial Contract Period **(Total of Column (C))**	**$_____ applicable taxes extra**		

Option Year 1 – April 1, 2022 to March 31, 2023			
Chemical Class	**Quantity of Analyses (A)**	**Price per Analyses (B)**	**Price (C)** **(A)*(B)**
Aquatic Biota			
Per- and polyfluoroalkyl substances (PFAS)	80	$_____	$_____
Brominated diphenyl ethers (PBDEs)	40	$_____	$_____
Hexabromocyclododecane	20	$_____	$_____
Polychlorinated Paraffins	10	$_____	$_____
Halogenated Flame Retardant (HFR)	10	$_____	$_____
Total Price for Option Year 1 **(Total of Column (C))**	**$_____ applicable taxes extra**		

Option Year 2 – April 1, 2023 to March 31, 2024			
Chemical Class	**Quantity of Analyses (A)**	**Price per Analyses (B)**	**Price (C)** **(A)*(B)**
Aquatic Biota			
Per- and polyfluoroalkyl substances (PFAS)	80	$_____	$_____
Brominated diphenyl ethers (PBDEs)	40	$_____	$_____
Hexabromocyclododecane	20	$_____	$_____
Polychlorinated Paraffins	10	$_____	$_____
Halogenated Flame Retardant (HFR)	10	$_____	$_____
Total Price for Option Year 2 **(Total of Column (C))**	**$_____ applicable taxes extra**		

Total Evaluated Price (Initial Contract Period + Option Year 1 + Option Year 2)	**$_____ applicable taxes extra**
Applicable Taxes	**$_____**
Total Price Including Applicable Taxes	**$_____**

Insert:

Initial Contract Period - Contract Award to March 31, 2022			
Chemical Class	**Quantity of Analyses (A)**	**Price per Analyses (B)**	**Price (C) (A)*(B)**
Aquatic Biota			
Per- and polyfluoroalkyl substances (PFAS)	80	$_____	$_____
Brominated diphenyl ethers (PBDEs)	40	$_____	$_____
Hexabromocyclododecane	20	$_____	$_____
Total Price for Initial Contract Period (Total of Column (C))	**$_____ applicable taxes extra**		

Option Year 1 – April 1, 2022 to March 31, 2023			
Chemical Class	**Quantity of Analyses (A)**	**Price per Analyses (B)**	**Price (C) (A)*(B)**
Aquatic Biota			
Per- and polyfluoroalkyl substances (PFAS)	80	$_____	$_____

Brominated diphenyl ethers (PBDEs)	40	$_____	$_____
Hexabromocyclododecane	20	$_____	$_____
Total Price for Option Year 1 (Total of Column (C))	**$_____ applicable taxes extra**		

Option Year 2 – April 1, 2023 to March 31, 2024			
Chemical Class	**Quantity of Analyses (A)**	**Price per Analyses (B)**	**Price (C) (A)*(B)**
Aquatic Biota			
Per- and polyfluoroalkyl substances (PFAS)	80	$_____	$_____
Brominated diphenyl ethers (PBDEs)	40	$_____	$_____
Hexabromocyclododecane	20	$_____	$_____
Total Price for Option Year 2 (Total of Column (C))	**$_____ applicable taxes extra**		

Total Evaluated Price (Initial Contract Period + Option Year 1 + Option Year 2)	**$_____ applicable taxes extra**

Applicable Taxes	**$**_____
Total Price Including Applicable Taxes	**$**_____

All other terms and conditions of the Bid Solicitation remain the same.