Food Standards Agency
food.gov.uk

Annex C. Call Off Agreement

<table>
<tr><td colspan="3">MoU between the FSA and Cefas:
CALL OFF AGREEMENT FORM</td></tr>
<tr><td colspan="3">This Form is to be used by the FSA when requesting that work be undertaken within the terms of the MOU. The Parties agree that each completed and approved Form will form part of and be interpreted in accordance with the terms and conditions of that MOU.</td></tr>
<tr><td rowspan="2">Project Title: FS101211 Radiological monitoring programme: sample collection and analysis</td><td>Cefas Reference:</td><td></td></tr>
<tr><td>Purchase Order Number:</td><td>TBC</td></tr>
<tr><td></td><td>Date:</td><td></td></tr>
<tr><td rowspan="2">FSA – Project Representative:
[redacted]</td><td>[redacted]</td><td>[redacted]</td></tr>
<tr><td>[redacted]</td><td>[redacted]</td></tr>
<tr><td rowspan="2">Cefas – Project Representative:</td><td>Tel:</td><td></td></tr>
<tr><td>E-mail:</td><td></td></tr>
<tr><td>Project Number:</td><td colspan="2">FS101211</td></tr>
<tr><td>Project Start Date:</td><td colspan="2">1st January 2023</td></tr>
<tr><td>Project Completion Date:</td><td colspan="2">31st March 2026 (Optional 2 year extension until 31st March 2028</td></tr>
<tr><td colspan="3">Project Summary
The Food Standards Agency (FSA) is responsible for food safety in England, Northern Ireland and Wales (Food Standards Act, 1999) and thereby undertakes monitoring and dose assessments of the food safety implications of radioactive wastes discharges to the environment. FSA's radiological monitoring programme establishes radioactivity concentrations within the vicinity of, and at distance from, nuclear licensed sites and demonstrates that radioactivity from manmade sources does not compromise food safety and are within national and EU acceptable limits of 1 mSv per annum. The FSA</td></tr>
</table>

programmes conform to the requirements in Article 35 and 36 (Directive 96/29/Euratom) laying down Basic Safety Standards (Directive 2013/59/Euratom) for protection against the dangers arising from exposure to ionising radiation. The purpose of this contract is to deliver a combined sampling/radioanalytical programme that is cost-efficient and effective in meeting the FSA's statutory requirements and provides resilience in the event of a radiological emergency/incident in the UK. The work requires collection, preparation and radioanalysis of aquatic and terrestrial food samples, and the timely reporting of information and results in specified formats, from locations around the nuclear sites (and away) across England, Wales and Northern Ireland. The results will then be used to estimate the radiological exposure (doses) to consumers
Specification/ Scope of Work: *To include Background, Scope of Work, Parties Inputs, Approach and Method, Skills required, Timetable:* See Annex A

Special Terms: **To include any terms or conditions not covered in the overarching MoU or any terms amended for the purposes of this Call Off Agreement**	
Deliverables:	As per Annex B Technical Proposal for FS101211
Progress Reporting (frequency & details):	As per Annex A Specification.
Key Personnel:	As per section 4, Organisational, Experience, Expertise and Staff Effort of Annex B - Tender Application Form for a project with the Food standards Agency (FS101211).
Foreground IPR – Ownership	As detailed in the MoU
Price	As per Annex C Financial Proposal
Payments & Invoicing	As detailed in Annex B of the Financial Template submitted by CEFAS for FS101211 and Annex D of the post tender clarification document (both attached). Should any additional ad hoc / emergency samples or ad hoc / emergency testing be required, these will be invoiced with the last invoice each year.

Commercially sensitive information	Annex B (other than section 1: tender summary and objectives), post tender clarification document and cost breakdown included in the financial templates submitted by CEFAS for FS101211.

We confirm receipt of this Form seeking approval for the above project to proceed. We agree to provide the goods and/or services requested according to the terms and conditions set out in the MoU between Cefas and the FSA.

Signed on behalf of the FSA:

Name:

Signature:

Position:

Date:

Signed on behalf of Cefas:

Name:

Signature:

Position:

Date:

Annex A Specification

Specification Reference
FS101211
Specification Title
Radiological Sampling and Analysis
Contract Duration
1st January 2023 three-year contract with possible two-year extension

This specification, which forms part of the Invitation to Tender (ITT), comprises of three individual sections: -

A. **SPECIFICATION:** An outline of the requirement

B. **PROCUREMENT TIMETABLE:** An estimated timetable for the procurement of the proposed requirement

C. **TENDER REQUIREMENTS AND EVALUATION CRITERIA:** Provides guidance to applicants on the information that should be included within tenders and on the evaluation criteria and weightings used by appraisers when assessing and scoring tenders

Tenders for FSA funded projects must be submitted through the FSA E-sourcing and contract management system, ECMS, using the following link: https://food.bravosolution.co.uk/web/login.html. Failure to do so may result in the tender response not being processed by the system or the response being automatically disqualified during the evaluation stage of the tender process.

THE SPECIFICATION, INCLUDING PROJECT TIMETABLE

AND EVALUATION OF TENDERS

GENERAL INTRODUCTION

The Food Standards Agency is an independent Government department working across England, Wales and Northern Ireland to protect public health and consumers wider interest in food. We make sure food is safe and what it says it is.

The Agency is committed to openness, transparency and equality of treatment to all suppliers. As well as these principles, for science projects the final project report will be published on the Food Standards Agency website (www.food.gov.uk). For science projects we will encourage contractors to publish their work in peer reviewed scientific publications wherever possible. Also, in line with the Government's Transparency Agenda which aims to encourage more open access to data held by government, the Agency is developing a policy on the release of underpinning data from all of its science- and evidence-gathering projects. Data should be made freely available in an accessible format, as fully and as promptly as possible. Consideration should be given to data management as new contracts are being negotiated. Resource implications for this should be taken into account. The mechanism for publishing underpinning data should allow the widest opportunity for to enable its re-use. Where possible, underpinning data should be included in the final project report. Where data are included in the final report in pdf format, they should also be published separately in a format that can be used for further analysis. Large data sets can be provided separately in an annex to the report, and published, where possible, alongside the final report online. Where it is more appropriate to publish underpinning data in an existing database, archive, repository or other community resource, or for data to be saved in a specialist proprietary format, information will be provided on how the data can be accessed. There will be some circumstances where release of data may need to be restricted or anonymised for reasons of commercial and/or personal sensitivities.

A. THE SPECIFICATION

Background

1. Our programme of radiological work consists of two areas:

    a. Radiological Sampling and Analysis FS102066S (this tender)

    b. Radioactivity in Food and Environment (RIFE) Reporting FS102066R (not part of this tender)

2. The aim of this tender is to appoint a contractor for sampling and radiological analysis of foods in England, Wales and Northern Ireland. The data generated will be part of the RIFE (Radioactivity in Food and Environment) report.

3. The Radiological monitoring programme is undertaken for monitoring purposes as opposed to research, to enable the FSA to comply with its responsibility to protect contamination of the food chain. These samples are analysed and used to carry out the assessment of dose which will then be published in the RIFE report.

4. Samples to be collected will therefore be of food and feed from locations around major nuclear sites and several dairies away from nuclear sites across England and Wales (See Annex 1). In addition, samples may be required from other locations in the British Isles which would either be agreed through ad hoc arrangements within this contract or by separate contract extensions or variations as appropriate.

5. Samples will be analysed, and the data will be handled and used as described in this document.

The Specification

6. Due to the size and scope of the contract the FSA welcomes individual bidders as well as a consortium bid from several sample collectors and analytical laboratories, provided they are managed by a single lead contractor. The specifications herein contain specific requirements for the sampling project, the analysis project, and common requirements (such as project management, data protection, finances, etc.).

7. The contractor (or lead contractor in the case of a consortium bid) should demonstrate an organisational project management culture and individual project management qualifications or equivalent experience such that they can successfully deliver this project on time and budget.

Sample collection

8. To meet the requirements of this contract, for each year of the contract, a sampling schedule will be drawn up by the successful contractor and will be agreed by the FSA. This schedule will contain the range of samples to be collected and breaks down into three main groups: terrestrial, milk and aquatic samples. The terrestrial samples contain crops and animal products other than milk. The aquatic samples comprise both freshwater and marine samples covering the main food groups (see Annex 2).

9. The Radiological monitoring programmes require the collection of a considerable number of samples, and it is vital that adequate information about each sample and its subsequent treatment is recorded accurately and clearly. Samples shall be handled correctly so as to ensure they do not become corrupted either by contamination or deterioration during collection and storage. Part of this work may involve taking samples under emergency conditions, although the risk to the sample collectors will be low as the area that would be sampled will be at distance from any areas restricted to the general public. There may however be restrictions on food production, so knowledge of radiological protection or evidence of the company's access to advice on it, would be an advantage.

10. The collection will include foods sourced from primary producers (See Annex 1 for locations and Annex 2 for sample type to be collected).

11. It is desirable for samples to be collected from the same locations over a period of many years, to satisfy the aims of the programmes, one of which is monitoring long term trends. As such, a regular supply of the same or similar sample types where possible is an important factor. It is expected that the new contractor will develop a similar set of sample sites as to those which are held by the current contractor; it is understood that the sample locations may not be the same in this case but that consistency should be maintained over the course of the contract.

12. The majority of samples will be collected close to a nuclear site. These samples are to be of local origin/grown in the area. It is preferable for these samples of food groups to be obtained within 8 km of the site in question. Justification for going beyond this distance will need to be agreed with the FSA. The required food groups have been identified from habits surveys https://www.cefas.co.uk/services/surveys/habits/ (at these locations. The present sampling areas are shown in the Radioactivity in Food and Environment (RIFE) report available on the FSA website: www.food.gov.uk/science/research/radiologicalresearch/radiosurv/rife/

13. Any sampling trip should always aim to collect as many different samples as reasonably possible, taking into account harvesting periods, to minimise financial and environmental costs.

14. All samples being collected should be from UK producers (members of the public, farmers and small producers) and be from within the areas agreed with the FSA around the nuclear sites. In exceptional circumstances, and if agreed by the FSA project officer, samples can be obtained from shops (see point 17).

15. A few samples (milk and canteen meals) will be collected from areas away from the nuclear sites but these must be produced in the district or county specified.

Sample collection form and documentation

16. Traceability of all samples will be paramount. We will require grid references, names and addresses of the sample provider, date of collection, a description of the sample (e.g. carrots, lamb muscle etc), a unique sample code (that will be agreed with the analyst) and other standard information to help with traceability. When sending a batch of samples in one shipment, each sample should be labelled with the information above and with a summary of all samples to be delivered in that batch, listed with their unique sample code.

17. If the FSA project officer agrees that a sample can be obtained from a shop, then on these rare occasions:

    a. Digital photographs of the products shall be obtained with sufficient resolution and clarity to allow all on-pack information to be read easily. Contractors shall provide small retail outlets with a letter from the FSA at the time of purchase informing them that samples have been taken from their premises for a survey and that the results from the

survey will be published by the FSA, together with the accompanying sample information.

b. Contractors shall notify large retailers' headquarters rather than providing a letter to the individual store manager at the time of purchase.

c. Contractors shall inform all brand owners/importers with a list of their products that have been taken once sample purchasing has been completed.

18. In the event that preferred samples are unobtainable, the FSA will require advice from the sample and analysis contractor on preferred sample substitutions. The FSA will then decide, and approve, which of the options are suitable as samples in relation to the risk assessment. The contractor will then contact the supplier accordingly.

19. The contract will be undertaken on the basis that 90% of the milk samples and 95% of the non-milk samples are received, respectively, due to the inherent variability of the terrestrial and aquatic environments. If either of these targets are not met the contractor will evaluate the cost margin (by number of samples) associated with not meeting the targets and inform FSA. With available resources, the contractor and FSA will mutually agree any additional work (e.g. advice, additional summary reporting, additional analysis etc.) to be completed within reasonable timescales for any shortfall in expected delivery. If this agreement is not made then a "Performance Management and Service Credit Regime" shall be enacted as per the table below:

KPI	Service Measure	Performance required	Service credit Regime
1	**% of milk samples collected and received by lab for analysis within the agreed schedule set out at the start of each calendar year**	**90% for each calendar year**	**For any shortfall below the 90% target (for each calendar year), the contractor will evaluate the cost margin (by sample cost and analysis cost) and this deduction will be made from the chargeable value as a service credit at end**

			of January (the following **calendar year).**
2	**% of non-milk samples collected and received by lab for analysis within the agreed schedule set out at the start of each calendar year**	**95% for each calendar year**	**For any shortfall below the 95% target (for each calendar year), the contractor will evaluate the cost margin (by sample cost and analysis cost) and this deduction will be made from the chargeable value as a service credit at the end January (the following calendar year)**

20. The contractor will be required to design the sampling programme for the forthcoming year, to ensure that the best samples are being recommended to the sample providers in relation to the habits survey recommendations.

Preservation of samples

21. Samples should be packed and transported in a way as to prevent cross contamination between samples, loss or damage. The samples should be transported in such a way as to keep the food from spoiling or becoming unfit for safe handling by the analysts. On purchase, samples should be kept at their appropriate temperature according to the legislative requirement; chilled foods should be kept chilled for example. If the contract is held by a consortium, the sample contractor shall liaise with the analytical contractors to ensure that all samples meet this requirement.

22. It is expected that samples are to be delivered to the laboratory on the same day or the day following collection. If the samples are to be stored then adequate sample preservation should be carried out.

Sample Provider letter

23. Upon visiting a sample provider, the sample collector should be ready to explain the purpose of the sampling. A copy of the FSA letter and an explanation of the reason for this work should

be provided. The sample collectors should be able to explain, in simple terms, what is in the letter to the seller/food producer. The sample collector should provide written evidence that the sampling is an officially sanctioned exercise. This will help explain why the samples are being collected and what the results will be used for. It may be useful to show the supplier a copy of the RIFE (CD) report or the web link from which they can access the report.

24. The contractor will also be expected, on a yearly basis, to contact sample providers to help the FSA with stakeholder engagement as may be necessary, for example, a letter to farmers for other work we may need to involve them with.

Reporting sample collections

25. An electronic version of the sample collection information shall be made available to the analytical laboratory, of all samples sent and the batch summary. The FSA will require a monthly summary of information showing what has been collected in relation to the schedule. This should include the locations of the sample, what it is and when it was collected. This information needs to be recorded in an electronic format that should be accessible to the FSA and that is compatible with a GIS system and FSA software. This should be compatible with Microsoft office software.

Competence of sample collector/accreditation

26. Sampling contractors are expected to be able to demonstrate competence in sample collection. This should be evident from evidence of relevant accreditation. Evidence can also be shown in the form of previous work carried out for other contractors. They will also be able to demonstrate having acceptable quality management systems in place and adequate internal data quality checks.

Data standards for sampling

27. If the project includes generating data on the sampling of food and/or feed, the following minimum data standard must be followed. You are welcome to provide additional fields as required by the specification. The purpose of this standard is to create a baseline quality of data, enabling better sharing and analysis of the data. The minimum data standard is located at: GitHub - FoodStandardsAgency/sampling-data-standards: Data and metadata standards for sampling data collected by those directly commissioned by the FSA.

Safety

28. The sample contractor should have health and safety policies in place for the collection of samples. These policies should address the protection of health and safety across the full range of sampling activity including dealing with animal products and all possible contaminations of the food samples if required. The policies should also cover the relevant PPE, if required. These policies shall be supplied to the FSA representative on request.

Sample analysis

Services required

29. The Contractor will carry out the analysis of the samples collected. The number of samples and the nuclides (determinants) analysed will be provided in the schedules agreed at the start of the contract and for each subsequent year of the contract. For the purpose of the bid, a summary of a yearly schedule has been provided to allow an estimate of costs; Annex 4 provides the type and number of samples which will be collected and Annex 9 provides the analyses to be undertaken.

Samples to be analysed

30. For the purposes of this tender, an indicative list of food to be tested for is shown in Annex 2. The foods are broken down into three main groups; terrestrial foods, aquatic foods and environmental indicators. The terrestrial component will include milk, meat and meat products, cereals and fruit and vegetables. The aquatic sources will include fish, crustacea, shellfish and molluscs. It should be noted that during the contract, changes in the types of food required will occur in relation to the outcomes from habit surveys or other policy requirements.

31. The contractor should provide a detailed timetable for the given year's analytical schedule at the start of each year. This schedule should take sample collection and the time for the required analytical procedures into full account, and allow for unforeseen events that may cause delays in the schedule.

Safety

32. The contractor should have health and safety policies in place for the handling, storage and analysis of samples. These policies should address the protection of health and safety across the full range of activities including dealing with animal products and all possible contaminations of the food samples if required, and the full range of health and safety protocols in analytical laboratories. The policies should also cover the relevant PPE, if required. These policies shall be supplied to the FSA representative on request.

Time trend and research results to help with enquiries.

33. The contractor will provide a database which should be able to provide time trend information when requested related to either species or location. The database will be a geodatabase including full details of the sample information and analytical results. The database should include all data relating to the samples collected as part of the contract and also have the ability to import historic data held by the FSA. The precise requirements for the database will be discussed with the successful contractor.

RIMNET / RREMS data transfer to be provided by the end of April

34. The database should be able to provide, by the end of April, results from the previous calendar year in a format to be submitted to the RIMNET or its replacement RREMS (see Annex 10).

Intercomparison trials and detection limits

35. The tender submission should show the Limit of Detection (LoDs) the applicant can achieve at present and how the required LoDs (see Annexes 7 and 8) will be achieved if they are not achievable at present. The LoDs indicated represent the expected level to be achieved; there is a good scientific and food safety argument for using as sensitive methods as possible (balancing costs and sensitivity).

36. As part of the evaluation process, the contractor's ability to achieve the stated LoDs will be taken into consideration. The requirement is to use as sensitive methods as scientifically and economically possible and the bid should note where improvements to the specified LoDs are achievable. The pricing should be for the LoDs stated in annexes 7 and 8, any potential alterations to this will be discussed with the preferred contractor.
37. The tender submission should show any accreditation already available for the samples requested (see Annex 2) and the project plan/ timeline to achieve accreditation where not already available.

38. The contractor may also be required to take part in inter-comparisons with other laboratories to assess compatibility between monitoring results and give baseline data. Arrangements would be agreed as necessary and payments based on analytical basket prices and time if applicable.

39. The contractor's laboratory is to participate in national/international inter-laboratory comparisons (e.g. NPL, or equivalent) to assist in quality control checking. Where possible, inter-comparisons should be chosen that relate both to relevant determinants and relevant media.

40. The results, along with their interpretation, identification of anomalies and recommendations for improvement, are to be made available to the FSA in a written report when the results are known. These results will be treated in confidence.

41. Evidence of performance (results and acceptability) in all the inter-comparison exercises, with determinants relevant to the requirements of this contract, in which you have participated for the last 3 years, shall be provided with the tender submission. We would expect these to include gamma spectrometry method and a range of appropriate alpha and beta emitting radionuclides.

General requirements

Project Management

42. The contractor will have, as a minimum, quarterly meetings with the FSA's representative to discuss progress of sampling and analysis; this is the minimum frequency of meetings; more

meetings may take place as deemed necessary. Two of these meetings should be face-to-face, the other two can be either teleconference / MS Teams or face-to-face. The contractor is expected to visit the FSA's London office at least for one of these meetings, and the FSA program manager will visit the contractor for the other meeting. The contractor shall provide data reports before meetings (see data reporting and finance section for more details).

43. The FSA has the right to audit or designate a suitable auditor to check the work of the sample contractors and analytical laboratories, to ensure the process and procedures being carried out are fit to produce results of a suitable standard. In order to assist the project manager, the contractor should also provide sufficient training and advice for FSA staff if required. Gaining insight to practical matters concerning the sample collection and analysis project greatly improves the project manager's ability to appreciate the challenges involved, and plan/respond to emerging issues.

Data reporting

44. The contractor will provide:

    a. a report of samples collected, and a separate report of samples received for analysis on the last Friday of the month

    b. Validation of the results from analysis in that month**,** (by signature or another method) on the last Friday of the month.

    c. This data to be in Excel or other format as required for up load into a database.

    d. Biannual publication data for the FSA's website. This is an Excel spreadsheet containing the analytical results for each site with a written (text document) report covering any unusual results that have been investigated during that period. An example of the current format can be found on the FSA's website: https://www.food.gov.uk/science/research/radiologicalresearch/radioactivityinfood/fs102066-0/rife/provisional-radioactivity-surveillance-results-for-2016

Database

45. The FSA will expect to be provided with progress reports of the sample collection and analysis monthly. The contractor shall therefore either provide, when requested, spreadsheets of results, or develop a database for the FSA to access the results. This database should also be populated with historical data in order to have an easily accessible set of trend data. (The latter is the preferred option.) This database will also have to produce results in a format to comply with the later requests as listed below. The database will be regularly updated by the contractor with results throughout the year.

46. The database should be accessible to the FSA and produce data that is compatible with a GIS system and FSA software.

Results letters to sample providers

47. The FSA will provide a template letter for the contractor to send to the original sample provider. The contractor will include, as part of the letter, an explanation in plain English of the meaning of the results. Before sending out the letter, the contractor will show to the FSA a copy of the text for its approval. This letter will be sent to each sample provider each year before RIFE is published. Throughout the duration of the contract, stakeholder engagement letters to the sample providers may be requested to be sent out by the contractor on behalf of the FSA. This should not exceed more than one letter per sample provider a year.

Provision of results for inclusion in RIFE report

48. The contractor must complete all analysis and provide the full set of data for the previous calendar years to the FSA and the RIFE contractor by 31 March in the year following the collection year. The data must be in the format specified by the RIFE contractor.

49. The contractor will check that the data has been accurately put into the RIFE report within a month of having the draft tables supplied by the RIFE contractor. The precise format for this data will be agreed between the sample and analysis contractor and RIFE contractor following award of this contract. However, data will need to be submitted in a format and with sufficient detail which allows the RIFE contractor to produce the tables of results presented in the report. This will include the sample material, location description and the mean radioactivity concentration measurement for each radionuclide analysed.

50. The contractor will be required to check the data has been correctly added to the draft tables in the annual Radioactivity in Food and Environment (RIFE) reports and other published data sets.

Data Protection

51. The contractor should ensure that the names and addresses of the sample providers are kept secure and that this information should only be provided to the FSA and the analytical lab that the sample is being delivered to. The sample collector will have to make arrangements to cover these data sharing agreements with the sample provider.

52. It is a condition of the contract that data about the sample providers shall be kept in confidence and provided only for the use of the FSA and any relevant organisations with whom the FSA has a data sharing agreement. The contractor shall have appropriate security measures and systems in place.

Technical support and training

53. The contractor will provide familiarisation sessions to FSA staff on sampling and laboratory work subject to being able to fully comply with relevant health and safety terms for such work. It is expected that no more than three staff will do such training during each calendar year. Any additional costs encountered (including travel and subsistence by FSA staff) will be met by the FSA.

Emergencies and exceptional incidents

54. The contractor will be required to give advice on analytical requirements during an emergency response and also in planning for the response, including:

    a. General advice and support to the FSA with regard radiochemical analysis.

    b. Establishment of normalised ranges: after the first year of results from the contract the contractor will provide, at the start of each year, a normalised range of results for each nuclear site and agree trigger point levels for unusual results.

    c. Trigger point and investigation reports: after the first year of results from the contract the contractor shall identify whether the result from a particular site is within or exceptional to the normal range of results The contractor will highlight any exceptional events to the project/policy officer at the FSA, to enable discussion of the result and an investigation of the analytical procedures and sample collection/authenticity. It is also expected that the contractor will store any samples that are subject to investigation following unusual results for the life of the contract unless the FSA say that it can be disposed of early.

    d. It is expected that, in the case of an emergency/incident, further sampling will also be required. The contractor is expected to demonstrate capability and sufficient capacity in their system to allow for this expansion of work with short notice without detrimental impact on the contract programme, if an emergency/incident arises.

    e. It is possible that small-scale extra work may occur related to research work over the life of the contract.

    f. The contractor is expected to demonstrate sufficient capacity in their system to allow for this expansion of work, without detrimentally impacting the contractor programme, if an emergency/incident arises. The contractor will provide a cost breakdown (quote) for carrying out the extra sampling.

    g. The contractor will maintain their capability to advise on sampling strategy, should an incident be declared (or the FSA requested for emergency preparedness). The contractor should regularly (every two years) review its tools and strategies to support their sampling plan design.

    h. The contractor will provide a cost breakdown (quote) for carrying out any extra analysis and sample preparation.

        i. experience has suggested that between 1 and 5 such small scale incidents or unusual results per year.

        ii. In the case of small scale incidents such as imported food investigation, the contractor will be expected to produce results from the sample within a few hours of analysis otherwise liability for food perishing will be shared with the analytical contractor for damage to food stuffs and reputation of those affected.

Samples would be collected by the port health authority officials (with whom you may need to discuss details) and delivered to the laboratory. Due to the nature of this type of incident, it is expected that the sample would be analysed and reported within 6 hours of receipt for a gamma scan where the sample is delivered within normal working hours.

55. The cost in the first instance shall be offset against any non-analysis of routine samples expected for the year.

56. Since the contractor is expected to perform additional sampling and analysis in case of emergencies, incidents, the FSA expects to be informed if facilities are unavailable for planned maintenance or other unscheduled reason. It is expected that the contractor will inform the FSA of planned maintenance timetables as soon as practicable and without unreasonable delay when normal service is resumed.

57. Samples collected and analysed during an emergency or incident will be handled so as to maintain chain of custody for later investigations.

Finance Arrangements

58. Sample schedules for this project run on a calendar year basis.

59. Applicants should complete the Financial Template and include costs for the optional two year extension as well as the initial three years.

Monthly invoicing

60. Invoices shall be submitted at monthly intervals on the first working day of the month unless otherwise agreed by the FSA. This will include:

    i. an Excel spreadsheet showing a breakdown of costs per site of work carried out on samples from the previous month, (that will be used for the recharge made by the FSA) and

    ii. The total cost of the work carried out during that previous month.

61. Payment will normally be made within thirty days of receipt of a correct invoice.

62. Invoices shall show the period and the amount of the work for which payment is claimed, together with the agreed charging rates and any supporting documentation which the representative of the FSA may require.

63. Invoices for the work performed shall be rendered at the time and in the manner agreed by the FSA.

Estimates of costs to enable recharge to the nuclear industry

64. The contractor should be able to provide sufficient information to estimate monthly cost for carrying out the sample collections around nuclear sites, and the cost of analysis of these samples. This breakdown per nuclear licensed site will then be used by the FSA to make a charge to the industry under the Environmental Permitting Regulations. The contractor will be required to assist FSA with queries related to recharge costs from the National Audit Office, the environment agencies and industry.

65. A schedule for sample collection and analysis for the year should be produced with discussion with the FSA and this should include the contractor's predicted cost for the contract for the year and how these costs are expected to vary throughout the year. This information should also be used to work out the recharge estimates for an entire year. Throughout the year, the contractor will be required on the 1st of the month to supply a schedule of estimated costs of sample collection and analysis work for each following month, highlighting and explaining any variances from the original cost estimate.

66. By the end of January each year, the contractor shall provide a reconciliation report of actual recharges submitted each month in the previous year against the original estimate provided at the start of the year.

Costing proposals

67. To enable the FSA to assess value for money, applicants should provide a "cost per sample" for the range of samples in Annex 2 and the costs for each analysis covering the requirements in Annex 7 and 8and enter the detailed cost breakdown on a financial template. Costs should be based on the indicative programme supplied. Although we do not expect there to be major changes to these, the programme will be agreed on an annual basis, so there may be some minor changes to the costs which will be agreed by both parties. Therefore, the statement in the Financial Template does not apply although it is anticipated costs will remain as close as possible to those submitted.

TUPE

68. The FSA understands that there are currently employees who would potentially be within scope of TUPE. An aggregated summary of the Transfer of Undertakings (Protection of Employment) (TUPE) data is at Annex 11. The FSA makes no representations or warranties as to the accuracy of this information.

69. The Agency is committed to openness and transparency. As well as the final project report being published on our website, we encourage contractors to publish their work in peer-reviewed scientific publications and conferences wherever possible. Also, in line with the Government's Transparency Agenda which aims to encourage more open access to data held by government, the Agency is developing a policy on the release of underpinning data from all of its science-and- evidence-gathering research projects. Underpinning data should also be published in an open, accessible, and reusable format in a way that takes data protection legislations into account, such that the data can be made available to future researchers and the maximum benefit is derived from it.

70. The Agency has established key principles for the release of underpinning data, to be applied to all new science-and-evidence-gathering projects, and we would expect all contractors to comply with them:
http://www.food.gov.uk/about-us/data-and-policies/underpinning-data

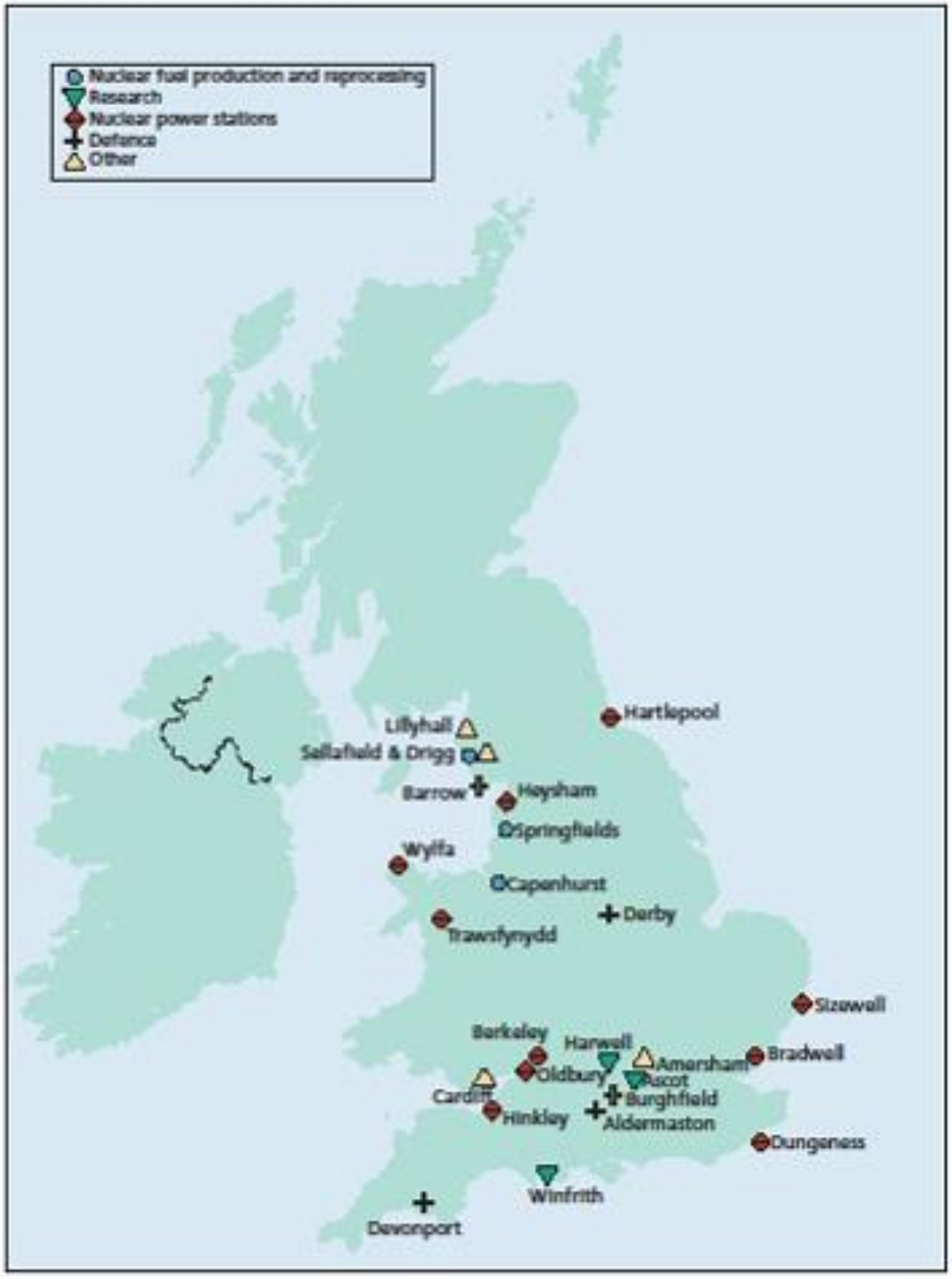
B. PROCUREMENT TIMETABLE

Table 1 details an **estimated** project timetable for the project. Tenderers should however be aware that the Agency needs to acquire the evidence outlined in this ITT in a timely manner and you should justify your timings in your work plan.

TABLE 1. ESTIMATED PROJECT TIMETABLE	
EXPECTED DATE	**INVITATION TO (ITT) TENDER**
2nd November 2022	Invitation to Tender (ITT) issued by the Agency
Immediately as above	ITT Clarification period opens*
16th November 2022	ITT Clarification period closes**
23rd November 2022 12 noon	Closing date for submission of ITT responses***
24th to 30th November 2022	Evaluation of ITT responses
1st to 8th December 2022	Appraisal panel meeting held to consider clarified ITT responses
9th December 2022	Tenderers notified of outcome of appraisal and preferred Tenderer (or Tenderers) identified
19th December 2022	10-day standstill period ends
End December 2022	Contract awarded and signed
1st January 2025	Project initiation meeting takes place and project commences
Within 6 weeks of contract end date	Latest date for submission of final report to FSA

Annex 1: The 21 sites in England and Wales where samples are to be collected.

(Excludes Ascot, Cardiff and Lillyhall)



Annex 2: Sampling Definitions:

Sampling shall be taken from the range of food sources currently used to assess total dose to the public and which satisfy Euratom Treaty Article 35 and 36 requirements, as reported in the annual RIFE report. The samples will be provided to the analysts through a separate sample collection contract. These samples will be analysed for a range of determinants (nuclides). For the purposes of this tender the list below covers what has been required in the past. During the contract other matrices may be required subject to the outcome of habit surveys or other requirements and any changes will be agreed with the contractor.

A.2.1 Terrestrial Food Sources

A.2.1a Cereals

Includes, but not limited to: Barley, Wheat,

A.2.1b Fruit and vegetables:

Includes, but not limited to: Apples, Blackberries, Elderberries, Honey, Loganberries, Mushrooms, Beans, Brussels sprouts Cabbage (Summer), Carrots, Cauliflower, Chard, Courgettes, Beans, Kale, Leeks, Lettuce, Lettuce/Chard, Lucerne, Leaf Beet, Potato.

A.2.1c: Meat and & meat products:
Includes, but not limited to: Lamb Liver & Kidney, Lamb Muscle, Wild wood pigeon, Rabbits, Deer, Cattle Muscle, Cattle Liver, Cattle Kidney, Free Range Hens Eggs, Wild fowl

A.2.1d: Game
Includes, but not limited to: Deer, Pheasant, Rabbit, Wood pigeon and Wildfowl

A2.1e Water and other environmental samples

Includes, but not limited to: Bottled water, Grass, Silage and Soil, Sewage Pellet

A2.1f Canteen meals

To comply with Articles 35 and 36 of the Euratom treaty recommendation, the FSA will require the analysis of meals produced from a canteen to represent a typical diet. These will be analysed for the required nuclides under the Commission Recommendation 2000/473/Euratom.

A2.2 Aquatic Food Sources

A2.2a Fish
Includes, but not limited to: Bass/Mullet, Brown trout, Dab, European perch, European sea bass, Grey mullet, Herring, Lesser spotted dogfish, North Atlantic salmon, Pike, Rainbow trout, Sea trout, Spurdog, Thornback ray, Whitebait, Whiting, (European) mackerel. Cod, Sole (Dover sole), European plaice, Saithe Skates/rays, Flounder (European), Elvers/Eels, Dulse,

A2.2b Crustacea:

Includes, but not limited to: Shrimp, European lobster, Shrimps /Prawns, Edible crab, Norway lobster, , Spiny spider crab.

A2.2c Shellfish/Molluscs:

Includes, but not limited to: Scallop, Limpets, Edible winkle, Common cockle, Pacific oyster, European flat oyster, Blue (edible) mussels, Common whelk, , Squids , Common limpet, Common cuttlefish, Manila clam.

A2.2.d Edible aquatic plants

Includes, but not limited to: Samphire, Sea Kale, Porphyra umbilicalis, Laverbread.

A.2.3 Whole unpasteurised milk.

Annex 3: Quantities of samples.

In the final contract the analyst will determine the amounts of samples they require to achieve the required detection limits. For the purpose of this bid, the quantities required are as shown below:

- Terrestrial foods will require 3kg of produce for solid foods and 3 litres for liquid foods (e.g. milk).
- For aquatic foods, the following weights will be required as edible fraction (i.e. flesh not including shell when considering shellfish) :

Sample Type	Amount
All fish	Sufficient to give 5 kg wet weight of unskinned (or skinned as appropriate for the species), uncooked fillet
Edible crab	10 animals of commercial size
Spiny spider crab	20 animals of commercial size
Other crab species	Not less than 40 animals
Lobster	10 animals of commercial size
Nephrops	Sufficient to give 2.5 kg wet weight of peeled tails
Prawn	Sufficient to give 3.0 kg wet weight of peeled prawn tails
Shrimp	Sufficient to give 3 kg wet weight of peeled shrimp tails
Cockle	Sufficient to give 2.5 kg of wet weight with shell removed
Limpet	As for cockle
Whelk	As for cockle
Edible mussel	As for cockle
Edible winkle	As for cockle
Escallops	As for cockle
Oyster	As for cockle

Scallop	As for cockle
Squid/Cuttlefish	3 kg whole body wet weight
Plants (edible)	2 kg wet weight of recent growth

Annex 4: Indicative annual schedule summary

On the contractor being successful a detailed schedule will be produced similar to Annex 5 and 6 with specific details on food types and locations. For the purposes of this tender the list below covers what has been required in the past. During the contract other matrices may be required subject to the outcome of habit surveys or other requirements and any changes will be agreed with the contractor.

		Site related	Non-site related
Aquatic	Fish	34	0
	Crustaceans & Molluscs	61	0
	Edible aquatic plants	4	0
	Seaweed	0	0
Terrestrial	Milk	752 (46 farms)	204 (17 dairies)*
	Meat and meat products	16	0
	Poultry and eggs	2	0
	Fruit and vegetables	28	0
	Cereals	21	0
	Game	7	0
Indicators	Soil/Grass/Silage	1	0
Mixed Diet	Canteen Meals	N/A	18 (9 canteens)

* In addition, 72 milk samples from 6 dairies in Northern Ireland are not part of the collection schedule but will require analysis.

Annex 5: Indicative schedule of number of samples per site

The type and number of each sample category is listed below and is based on the list of historical samples taken from the sites (further information can be found in the RIFE report). For the purposes of this tender the list below covers what has been required in the past. During the contract other matrices may be required subject to the outcome of habit surveys or other requirements and any changes will be agreed with the contractor.

Each bidder should provide an estimate of:

- The cost of collecting the sample (management and logistic work).
- The cost of purchase of the sample (see table below for example samples to base this bid on and Annex 3 for the quantity of samples).
- The transport costs for the delivery to the analytical laboratory.

Site	Fish	Crustaceans	Molluscs	Edible aquatic plants
Sellafield	10	14	16	1
Berkeley	1	1	0	0
Oldbury	2	1	1	0
Bradwell	1	1	1	1
Dungeness	2	1	1	1
Hinkley Point	1	1	2	0
Sizewell	2	1	1	0
Trawsfynydd	2	0	0	0
Wylfa	1	2	1	0
Winfrith	1	1	1	0
Springfields	2	1	1	1
Devonport	1	2	1	0

Heysham	2	2	0	0
Hartlepool	1	1	2	0
Capenhurst	1	1	2	0
Thames	1	1	0	0
Derby	0	0	0	0

Site		Milks, Number of Farms	Milk samples	Cereal	Fruit / Vegetable	Meat and Meat products	Game	Grass / Silage / Soil
Aldermaston		2	24	1	1	0		0
Amersham		1	52	1	1	0	0	0
Bradwell		2	24	1	1	0	0	0
Capenhurst		2	24	1	1	0	0	0
Derby		0	0	1	1	0	0	0
Devonport		0	0	1	1	0	0	0
Drigg		2	24	1	1	0	0	0
Dungeness		2	24	1	1	0	0	0
Hartlepool		2	24	1	1	0	0	0
Heysham		2	24	1	1	0	1	0
Hinkley Point		2	24	1	2	0	0	0
Harwell		2	24	1	1	0	0	0
Oldbury		2	24	0	1	0	0	0

Berkeley		2	24	1	0	0	0	0
Sellafield (including Ravenglass)		11	292	1	7	18	5	1
Sizewell		2	24	1	1	0	0	0
Springfields		2	24	1	1	0	2	0
Trawsfynnyd		2	24	1	1	0	0	0
Barrow		0	0	1	1	0	0	0
Winfrith		2	24	1	1	0	0	0
Wylfa		2	24	1	1	0	0	0

Article 35 Dairies (England and Wales		17	204
Article 35 Dairies (Northern Ireland)		6	72

Annex 6: Canteen Meals

For mixed diet, the FSA takes canteen meals from locations throughout the UK and analyses the total meal for caesium-137 (Cs-137) and strontium-90 (Sr-90) to be reported to the European Commission. This will be maintained to demonstrate continued compliance with Recommendation 2000/473/Euratom.

The existing locations will be provided by the FSA, but if any providers decided not to take part in the programme then the contractor will be expected to find replacements in the same area and agree the replacement with the FSA.

	Canteens sampled quarterly	Canteens sampled annually	Total samples analysed per year
England	1	4	8
Wales	1	1	5
Northern Ireland	1	1	5
Total	**3**	**6**	**18**

Annex 7: Terrestrial samples limits of detection

Provided below are the detection limits that the successful contractor will be expected to achieve.

Radionuclide	**Limit of Detection required**
Module 1: Milk **As part of the bid, the tenderer will have to provide their detection limits - they will be judged be able to detect to this level or lower.**	
Gamma scan	For all nuclear sites the following radionuclides are to be routinely reported: K-40, Co-60, Se-75, Zr-95, Nb-95, Ru-103, Ru-106, Ag-110m, Sb-125, Cs-134, Cs-137, Ce-144, Eu-154 and Eu-155. Each sample is to be counted to achieve a LoD of 3.5 Bq/l for Ru-106 and 0.4 Bq/l for Co-60.
Total H-3	5 Bq/l
HTO and OT-3	10 Bq/l
C-14	15 Bq/l
P-32	2 Bq/l
S-35	1 Bq/l
Sr-90	0.05 Bq/l (0.02)
Tc-99	0.1 Bq/l (0.04)
I-125	0.05 Bq/l
I-129	0.075 Bq/l

Radionuclide	Limit of Detection required
I-131	0.1 Bq/l
Total Cs	0.075 Bq/l Any samples which are found to have a total Cs activity of greater than 10 Bq/l should be analysed by gamma scan to determine the ratio of individual nuclides Cs-134 and Cs-137.
Pu	Pu-238 and Pu-239+240 to be reported. 0.0002 Bq/l
Pu-241	0.1 Bq/l
Am-241	0.0002 Bq/l

Module 2: Cereals / Fruits and Vegetables **The tenderer will have to provide their detection limits - they will be judged as able to detect to this level or lower.**	
Gamma scan	- For all sites the following radionuclides are to be routinely reported: K-40, Co-60, Se-75, Zr-95, Nb-95, Ru-103, Ru-106, Ag-110m, Sb-125, Cs-134, Cs-137, Ce-144, Eu-154 and Eu-155. Each sample is to be counted to achieve a LoD of 3.5 Bq/l for Ru-106 and 0.4 Bq/l for Co-60.
Total H-3	10 Bq/kg
HTO and OT-3	Where a sample is too dry to analyse for both HTO and OT-3 it should only be analysed for total tritium. 10 Bq/kg

C-14	15 Bq/kg
S-35	1 Bq/kg
Sr-90	0.1 Bq/kg
Tc-99	0.1 Bq/kg or as low as achievable.
I-125	0.1 Bq/kg or as low as achievable.
I-129	0.05 Bq/kg or as low as achievable.
Total Cs	0.05 Bq/kg
Pb-210	0.03 Bq/kg
Ra-226	0.005 Bq/kg
Th-232	0.005 Bq/kg
Pu	Pu-238 and Pu-239+240 to be reported. 0.0002 Bq/kg
Pu-241	0.1 Bq/kg
Am-241	0.0002 Bq/kg
Module 3: Animal samples	
Gamma scan	For all nuclear sites the following radionuclides are to be routinely reported: K-40, Co-60, Se-75, Zr-95, Nb-95, Ru-103, Ru-106, Ag-110m, Sb-125, Cs-134, Cs-137, Ce-144, Eu-154 and Eu-155. Each sample is to be counted to achieve a LoD of 3.5 Bq/l for Ru-106 and 0.4 Bq/l for Co-60.
Total H-3	10 Bq/kg
HTO and OT-3	Where a sample is too dry to analyse for both HTO and OT-3 it should only be analysed for total tritium. 10 Bq/kg
C-14	15 Bq/kg
Sr-90	0.2 Bq/kg

Tc-99	0.1 Bq/kg or as low as achievable.
I-129	0.05 Bq/kg or as low as achievable.
Total Cs	0.1 Bq/kg
Th-230	0.005 Bq/kg
Th-232	0.005 Bq/kg
Pu	Pu-238 and Pu-239+240 to be reported. 0.0002 Bq/kg
Pu-241	0.1 Bq/kg
Am-241	0.0002 Bq/kg
Module 4: Grass, silage and soil **The tenderer will have to provide their detection limits - they will be judged as able to detect to this level or lower.**	
Gamma scan	For all the sites listed above the following radionuclides are to be routinely reported: Co-60, Zr-95, Nb-95, Ru-103, Ru-106, Ag-110m, Cs-134, Cs-137 and Ce-144. In addition, the following nuclides will also be reported routinely:- For Sellafield samples – Sb-125, Eu-154 and Eu-155. For Cardiff samples – Se-75 and Co-57. Other anthropogenic nuclides should be reported if activity is detected. There is no requirement to report Cs-134/Cs-137 for samples where Total Cs is reported. If Cs-134 is detected for any samples the Cs-137: Cs-134 ratio is to be reported. Each sample is to be counted to achieve a LoD of 3.5 Bq/kg for Ru-106 and 0.4 Bq/kg for Co-60.
Total H-3	10 Bq/kg
HTO and OT-3	Where a sample is too dry to analyse for both HTO and OT-3 it should only be analysed for total tritium. 10 Bq/kg

C-14	15 Bq/kg
Tc-99	0.1 Bq/kg or as low as achievable.
Ru-106	0.1 Bq/kg or as low as achievable.
Ce-144	0.1 Bq/kg or as low as achievable.
Module 5: Total uranium	
U in Milk	0.004 Bq/l. CONTRACTOR will be required to carry out alpha spectrometry on samples giving any unusual results for total U activity to determine relative isotopic abundance, after consultation between CONTRACTOR and the FSA to select appropriate samples.
U in Crops	0.003 Bq/kg. CONTRACTOR will be required to carry out alpha spectrometry on one crop sample per site with the highest total U activity to determine the relative isotopic abundance, after consultation between CONTRACTOR and the FSA to select appropriate samples. More than one sample may be selected where appropriate to further investigate unusual results from DNA analysis.
U in Animals	0.003 Bq/kg. CONTRACTOR will be required to carry out alpha spectrometry on one animal sample with the highest total U activity to determine the relative isotopic abundance, after consultation between CONTRACTOR and the FSA to select the appropriate sample. More than one sample may be selected where appropriate to further investigate unusual results from DNA analysis.
U in Grass & Silage.	0.05 Bq/kg. CONTRACTOR will be required to carry out alpha spectrometry on one grass or silage sample per site with the highest total U activity to determine the relative isotopic abundance, after consultation between CONTRACTOR and the FSA to select appropriate samples. More than one sample may be selected where appropriate to further investigate unusual results from DNA analysis.

U in Soil	0.1 Bq/kg. CONTRACTOR will be required to carry out alpha spectrometry on one soil sample with the highest total U activity to determine the relative isotopic abundance, after consultation between CONTRACTOR and the FSA to select the appropriate sample. More than one sample may be selected where appropriate to further investigate unusual results from DNA analysis.

Annex 8: Fish and shellfish Analytical Requirements limits of detection

Provided below are the detection limits that the successful contractor will be expected to achieve.

Analysis Type	Requirement
Total β	Beta counting by gas proportional detector. Required Limit of Detection (LoD) 80 Bq/kg wet weight
H-3 total tritium	For solid matrices, beta counting by liquid scintillation. Required LoD 25 Bq/kg wet weight. For water, concentrate by distillation followed by beta counting by liquid scintillation. Required LoD 1.0 Bq/l
OBT (Organically Bound Tritium)	Beta counting by liquid scintillation. Required LoD 25 Bq/kg wet weight
C-14	Beta counting by liquid scintillation. Required LoD 12 Bq/kg wet weight
C-14 (N)	Measure the C concentration in each sample and apply a specific activity of 250 Bq C-14 natural /kg C, -see table A6.1 of RIFE report.
γ Spec (L)	Gamma spectrometry on dried samples using germanium detectors, counting time to be such that a LoD of 0.1 Bq/kg wet weight is obtained for Cs-137. Results are to be reported for K-40, Cr-51, Mn-54, Co-57, Co-58, Co-60, Zn-65, Se-75, Nb-95, Zr-95, Ru-103, Ru-106, Ag-110m, Sb-124, Sb-125, I-131, Cs-134, Cs-137, Ce-144, Eu-154, Eu-155 and Am-241.
γ Spec (H)	Gamma spectrometry on dried samples using germanium detectors, counting time to be such that a LoD of 1.0 Bq/kg wet weight is obtained for Cs-137. Results are to be reported for K-40, Cr-51, Mn-54, Co-57, Co-58, Co-60, Zn-65, Se-75, Nb-95, Zr-95, Ru-103, Ru-106, Ag-110m, Sb-124, Sb-125, I-131, Cs-134, Cs-137, Ce-144, Eu-154, Eu-155 and Am-241.

γ Spec (W)	Gamma spectrometry on wet samples using germanium detectors, counting time to be such that a LoD of 1.0 Bq/kg wet weight is obtained for Cs-137. Results are to be reported for K-40, Cr-51, Mn-54, Co-57, Co-58, Co-60, Zn-65, Se-75, Nb-95, Zr-95, Ru-103, Ru-106, Ag-110m, Sb-124, Sb-125, I-131, Cs-134, Cs-137, Ce-144, Eu-154, Eu-155 and Am-241.
γ Spec (U) *Samples to be counted within 5 days of collection*	Gamma spectrometry on wet samples using germanium detectors, counting time to be such that a LoD of 1.0 Bq/kg wet weight is obtained for Cs-137. Results are to be reported for K-40, Cr-51, Mn-54, Co-57, Co-58, Co-60, Zn-65, Se-75, Nb-95, Zr-95, Ru-103, Ru-106, Ag-110m, Sb-124, Sb-125, I-131, Cs-134, Cs-137, Ce-144, Eu-154, Eu-155 and Am-241.
Sr-90	Radiochemical separation/purification followed by Cherenkov counting by liquid scintillation. Required LoD 0.01 Bq/kg wet weight
Tc-99	Radiochemical separation/purification followed by beta counting using gas proportional detectors. Required LoD 0.08 Bq/kg wet weight.
I-129	Gamma spectrometry on wet samples using low energy germanium detectors, counting time to be such that an LOD of 0.1 Bq/kg wet weight is obtained
Cs-r/n's (Cs-134 and Cs-137 in water)	Separation by ion exchange chromatography followed by gamma spectroscopy by solid scintillation. Required LoD 0.002 Bq/l
Pm-147	Radiochemical separation/purification followed by beta counting by liquid scintillation. Required LoD 0.05 Bq/kg wet weight
Pb-210	Radiochemical separation/purification followed by beta counting using gas proportional detectors. Required LoD 0.002 Bq/kg wet weight.
Po-210	Radiochemical separation/purification followed by alpha spectrometry. Required LoD 0.002 Bq/kg wet weight.

Th-r/n's	Radiochemical separation/purification followed by alpha spectrometry. Required LOD for Th-228 0.002 Bq/kg wet weight. Results to be reported for 228, 230, 232 and 234 isotopes
U-r/n's	Radiochemical separation/purification followed by alpha spectrometry. Required LoD for U-238 0.002 Bq/kg wet weight. Results to be reported for 234, 235+236 and 238 isotopes
Np-237	Radiochemical separation/purification followed by alpha spectrometry. Required LoD 0.0002 Bq/kg wet weight.
Pu/Am/Cm	Radiochemical separation/purification followed by alpha spectrometry. Required LoD 0.0001 Bq/kg wet weight for Pu-238. Results to be reported for Pu-238, Pu-239+240, Am-241, and Cm isotopes 242 and 243+244.
Pu-241	Use an aliquot from Pu/Am/Cm separation/purification and beta counting by liquid scintillation. Required LoD 0.02 Bq/kg wet weight.

* The reference to proprietary products should not be construed as an official endorsement of these products, nor is any criticism implied of similar products which have not been mentioned.

NOTE: For any sediment analyses that might be required, results should be given in Bq/kg dried weight.

Annex 9: Number of analyses required across the programme

At the start of this contract and at the start of each subsequent year, a detailed schedule will be agreed with the contractor covering foods and the types of analysis. For the purposes of this tender the list below covers what has been required in the past. During the contract other analyses may be required subject to the outcome of habit surveys or other requirements and any changes will be agreed with the contractor.

Each bidder should provide an estimate of:

- the cost of preparation of sample (including management and logistic work on the sample).
- the cost of analysis
- the cost of ad hoc analysis per nuclide

Non Milk Terrestrial		**Milk Terrestrial**		**Article 35 Collections**		**Aquatic**	
Gamma scan	65	Gamma scan	264	Gamma scan	24	Total beta	21
Total H-3	41	Total H-3	128	Total Cs	276	Gamma spec	96
HTO	27	HTO	64	Sr-90	294	Pu/Am (chem)	54
OT-3	27	OT-3	56	K-40	36	Strontium	25
C-14	60	C-14	148	C-14	18	Technetium	31
S-35	19	P-32	24	Uranium	2	Gamma spec(wet)	0
Total Cs	36	S-35	76	Total H-3	4	Tritium	50
Sr-90	37	Total Cs	36			OBT	43
Tc-99	26	Sr-90	43			Uranium	7
I-125	4	Tc-99	8			Pu-241	36
I-129	37	I-125	12			Promethium	6
Th-230/232	6	I-131	221			Polonium	36
Pu alphas	39	I-129	35			Lead	32

Pu 241	34	Pu alphas	32			C-14(N)[1]	61
Am-241 (chem)	39	Pu 241	24			C-14	61
Uranium	12	Am-241	32			Neptunium	7
		Uranium	6			Thorium	8
						I-129(wet)	12
TOTAL	509	**TOTAL**	129	**TOTAL**	654	**TOTAL**	586

Annex 10: Data reporting formats

RREMS

The Radiological Response Emergency Response System (RREMS) is a cloud-based application which replaces the RIMNET3 IT system. RREMS is an emergency response system which maintains a database of historic data to be available for comparison to monitoring taken following a major incident. RREMS is based on a 'self-service' model where user organisations can access the application and retrieve required data themselves. Upon approval, each user organisation is provided with a user account for at least one Super User, who can create additional roles for their organisation as required, for example to cover 24x7 response requirements.

Article 35 and 36 data – Joint Research Council (JRC) REM submission tool

The recommended format is using text (tab delimited) files. The user will need to arrange the data in an Excel spreadsheet. The following data fields are required:

NAME, NUTS Code (location reference), Decimal Latitude, Decimal Longitude, Accuracy, Sample Type, Sample Treatment, Begin Date, Begin Time, End Date, End Time, Laboratory, Apparatus, Radionuclide, Activity Value, Measuring Unit, Less Than, Value Type, Uncertainty Value, Uncertainty Type and Uncertainty Unit.

The user will then need to ensure that separate Excel spreadsheets are created for specific radionuclides, these are;

Milk – C-14, CS-137, K-40 and SR-90

Mixed Diet – C-14, CS-137 and SR-90

Once these have been done, they all need to be converted into text (tab delimited) files and then submitted to the FSA or directly onto the REM database.

Annex B Technical Proposal

Tender Application form for a project with the Food Standards Agency

- Applicants should complete each part of this application as fully and as clearly as possible
- Brief instructions are given in the grey boxes at the start of each section.
- Please submit the application through the Agency's eSourcing Portal (Bravo) by the deadline set in the invitation to tender document.

LEAD APPLICANT'S DETAILS							
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Organisation	Centre for Environment, Fisheries and Aquaculture Science	Department	Food Safety Portfolio				
Street Address	Pakefield Road						
Town/City	Lowestoft	Country	UK	Postcode	NR33 0HT		
[redacted]	[redacted]	[redacted]	[redacted]				

Is your organisation is a **small and medium enterprise**. (EU recommendation 2003/361/EC refers http://www.hmrc.gov.uk/manuals/cirdmanual/cird92800.htm)			No	

TENDER SUMMARY			
TENDER TITLE			
Radiological monitoring programme: sample collection and analysis			
TENDER REFERENCE	**FS101211**		
PROPOSED START DATE	01/01/2023	**PROPOSED END DATE**	31/03/2026, to account for the reporting of results of samples collected up until 31/12/2025

1: TENDER SUMMARY AND OBJECTIVES

A. TENDER SUMMARY

Please give a brief summary of the proposed work in no more than 400 words.

The Food Standards Agency (FSA) is responsible for food safety in England, Northern Ireland and Wales (Food Standards Act 1999) and thereby undertakes monitoring and radiological dose assessments of the food safety implications of discharges of radioactive wastes to the environment. FSA's radiological monitoring programmes help to establish the concentrations of radioactivity within the vicinity of, and at distance from, nuclear licensed sites. The FSA has responsibilities for ensuring that any radioactivity present in food and feed does not compromise food safety and that permitted discharges of radioactivity do not result in unacceptable doses to consumers via the food chain. The FSA also ensures that public radiation exposure via food consumption is below 1 mSv per annum.

The purpose of this contract is to deliver a monitoring programme that is cost-efficient, effective in meeting the FSA's statutory requirements and provides resilience in the event of a radiological emergency/incident in the UK. The work requires collection, preparation and radioanalysis of aquatic and terrestrial food samples, and the timely reporting of information and results in specified formats, from locations in the direct vicinity of and far from nuclear sites across England, Wales and Northern Ireland. The results are then used to estimate the radiological exposure (doses) to consumers.

Cefas has successfully delivered a high quality, fully managed, radiological monitoring programme on behalf of FSA, to collect and analyse marine and aquatic samples for over 20 years. This programme was last renewed in 2017 and included the collection and analysis of milk and terrestrial samples. Therefore, Cefas has a proven track record of successful delivery of this radiological monitoring programme being tendered here. Cefas also has experience of delivering other FSA programmes relevant to this work (e.g., Radioactivity In Food and the Environment (RIFE) reports production, habits surveys). Cefas staff have unique technical expertise and understanding of radiological protection that can be applied to all aspects of the monitoring programme (from design to radiological assessment). Our extensive experience of robust sample collection (including an established nation-wide milk sampling contractor and a non-milk collection network), preparation (incorporating analytical specification requirements of the edible fraction), radioanalysis (proven world-class for alpha, beta and gamma emitting radionuclides at environmental levels, discharged from the nuclear industry), reporting of data/results (to specified requirements) and technical advice to national and international fora will ensure a quick and very low risk start to the project and high quality delivery each year.

B. OBJECTIVES AND RELEVANCE OF THE PROPOSED WORK TO THE FSA TENDER REQUIREMENT

OBJECTIVES

Please detail how your proposed work can assist the agency in meeting it stated objectives and policy needs. Please number the objectives and add a short description. Please add more lines as necessary.

OBJECTIVE NUMBER	OBJECTIVE DESCRIPTION
1	**To draw up sampling schedules and sample collection plans and manage the sample collection. This will include:** • Production and finalisation of the sampling and analytical schedules in agreement by the FSA, each year, to include the three main groups of food and feed samples (milk, terrestrial (including canteen meals), and aquatic). This will incorporate locations, frequencies, species, quantity and bulk sample requirements (sampling schedule) and selection for analysis of specific radionuclides on each sample (analytical schedule). • Identification of appropriate collectors including NMR and APHA, setting up of arrangements between these and Cefas, management of supplier relationship to ensure that a suitable network of collectors is available to meet the requirements of the agreed sampling schedule. • Drawing up sample collection plans to complete the schedule. • Initiating the sample chain of custody via provision of an agreed sample collection form that ensures sample traceability is guaranteed throughout the monitoring life cycle. • Providing collectors with information relating to the programme.

	• Obtaining the required licences and authorisations to allow collection of samples (aquatic animals, animal samples and samples from within designated areas of special scientific interest or managed conservation).
2	**To collect samples of terrestrial foods (including milk), canteen meals and aquatic foods (including edible plants). This will include:** • Managing and working with sample collectors to ensure that environmental food samples are collected throughout the calendar year around nuclear licensed sites (and others further afield) to meet FSA's programme requirements, FSA's key performance indicators (KPIs) for sample collection and Cefas requirements for analytical testing. • Ensuring packaging of samples (for transport) is suitable and appropriate to prevent cross-contamination between samples, loss or damage and deterioration, prior to receipt at the Cefas laboratory. If more than one sample is to be delivered at the same time, an additional summary sheet of the sample information will be included. • Maintaining the "chain of custody" for each sample collected. The "chain of custody" scheme will ensure individual traceability of all samples collected in the annual schedule. This will be achieved by assigning a unique sample number (Laboratory Sample Number generated by Cefas Laboratory Information Management System (LIMS) to each sample collected. • Providing evidence on any rare occasions that a sample has been purchased from the retail outlets (with prior agreement by the FSA's representative) by sending clear digital photographs (that allow all on-pack information to be read clearly) to the FSA.
3	**To prepare and analyse samples of terrestrial foods (including milk), canteen meals and aquatic foods (including edible plants). This will include:** • Maintaining the "chain of custody" for each sample collected. • Undertaking preparation (dependent on type, number and required analysis), and using most suitable procedures, on each of the samples. • Carrying out specialised alpha, beta and gamma analyses (radiometric and radiochemical), in accordance with the number of samples and the radioelements in the schedule (agreed at the start of the contract and for each subsequent year of the contract) and ensuring individual limits of detection (LoD) for each analysis are sufficiently low and meet FSA's requirements. • Ensuring that all preparation and radioanalytical procedures are carried out by fully trained staff using tested quality assurance procedures in accordance with Cefas quality policy and iso 17025:2017 accreditation for radioanalytical services.
4	**To report progress on sampling, radioanalytical results and information to the FSA. This will include:** • As a minimum, arranging, participating and minuting quarterly review meetings (with actions and agreements submitted shortly thereafter) for the purpose of informing the FSA's representative of sample collection and analytical progress. Documents circulated in advance of the meetings to include agenda and update on actions previously agreed. • Providing the FSA's representative with a written quarterly report giving overall progress of work against the year's sampling and analytical schedule (e.g., by site and type of analysis for each category of samples: non-milks terrestrial, milk terrestrial and aquatic,). The report will include specific detailed information describing the status and throughput of all the individual aspects of sample collection and analytical work programme (e.g., samples receipt, sample preparation and analytical progress).

	• Providing reports regularly to the FSA's representative of the status of progress (samples received, validated results, reports on unusual or high results and outcome of investigations, biannual publication data report, results for inclusion in RIFE report) against the requirements. • Checking that radioanalytical data has been correctly added to the draft tables in the annual RIFE reports and other published data sets using the existing agreed formats and standards or adapted to the requirement of the FSA's representative. • Providing a letter to each sample provider each year (i.e., collectors that sourced the samples) to outline the result(s) of the testing and provide an explanation of the meaning of the result(s).
5	**To ensure that personal information of collectors is secure and comply with the Data Protection Act (DPA) 2018 & UK GDPR. This will include:** • Ensuring names and addresses of sample providers are secured between Cefas, the FSA's representative, our key suppliers and our sample collectors. • Making provision, with appropriate security measures, to cover data sharing arrangements with authorised personnel within the contract framework.
6	**To provide advice, technical support and training to the FSA. This will include:** • Taking part in the analytical and sampling yearly review schedule meeting in conjunction with the FSA. The outcome is to ensure that the proposed programme of work for the coming year is agreed, technically feasible, that the most appropriate samples are being recommended to be collected by the sample providers, and the radioelements required are also the most appropriate (in relation to the habits survey recommendations, RIFE requirements or other information), and to the requirements and satisfaction of the FSA's representative. • Providing advice on sample substitutions and/or radioelements (based on analytical requirements) to the FSA's representative, if preferred scheduled samples cannot be obtained (for environmental reasons for example). • Providing technical support and general advice (within resources available), to the FSA's representative, regarding radiological sampling, preparation of samples, radiochemical and radiometric analysis and interpretation of environmental data, in response to general *ad hoc* queries to the FSA from other Government departments, official representatives from the nuclear sector (e.g., Sellafield Limited) and members of the general public. • Provide training experience for FSA staff, giving theoretical instruction of best practices in sample collection, and at the Lowestoft laboratory, providing hands-on experience of preparation procedures and a variety of radioanalytical methods (radiometric and radiochemistry). • Provide technical advice on sampling and analytical requirements during an emergency response. • Assisting the FSA's representative with queries related to recharge costs from the National Audit Office, the Environment Agencies and Industry.
7	**To provide financial information to the FSA. This will include:** • Producing an annual Excel spreadsheet (January each year (July for the first 6 months), using estimated sample receipt times (contained in the sampling schedule), showing the sampling and radioanalytical schedule of work for the coming year. This will be used to predict the cost of sampling and analytical work for the year and to work out the estimates of recharge to the nuclear industry made by the FSA. • Submitting recharge costs (with invoices) to the FSA at monthly intervals on the last day of the month (unless otherwise agreed with the FSA), highlighting any changes from the original estimate for the year.

8	**To participate in national and international inter-laboratory comparison exercises. This will include:** • Covering as many radionuclides and matrices as possible in inter-comparison exercises organised by recognised expert institutions (e.g., IAEA, MRI, usually 3 or 4 per annum in total, depending on scope and availability) over the life cycle of this contract, to best represent the requirements of the FSA's radioanalytical schedules and to demonstrate our commitment to quality control and quality output. • Reporting results and finding of completed inter-comparisons in quarterly written reports, including identification of anomalies and recommendations for improvement etc. (as appropriate). • Evaluating the results of completed inter-comparisons and instigating any actions that need to be incorporated or further developed and maintain our UKAS accreditation status (to maintain our high quality and reputation). • Participating in inter-comparisons with other laboratories to assess compatibility between monitoring results and give baseline data, as per FSA specifications.
9	**To sustain and extend the scope of Cefas ISO17025:2017 accreditation for preparation and radioanalytical methods. This will include:** • Maintaining our accreditation schedule for the duration of the contract by complying with ISO17025 standard. • Acquiring robust quality control data for non-accredited or updated methods (e.g., Tc-99 (ICP-MS), radioiodine) to support our submission for UKAS accreditation. • Developing new Standard Operating Procedures (SOPs) for new methods. • Submitting an application for accreditation to UKAS using the above information. Cefas staff will demonstrate the analytical methods to UKAS assessors, in line with UKAS assessment procedures (written requirements, visits and timescales).
10	**To provide advice and resource for coordinating sample collection and analysis from post-incidental and emergency situations, and other small-scale work. This will include:** • Providing advice and information on sampling and radioanalytical requirements during an emergency response, and in planning for the response, including: a) General advice and support to the FSA in relation to sampling, preparative approaches, radiochemical and radiometric analysis to optimise the response; b) To provide additional sampling in the event of an emergency incident (or high/unusual results) and demonstrate that sufficient capability and capacity (staff resource, equipment etc.) is available to allow for the required expansion of work without detrimental impact on the contract programme, if such a situation arises. c) To provide a cost breakdown (quote) for carrying out the required additional sample collection, including cost of collecting the sample, cost of purchase and cost of transport. d) Establishment of normalised ranges. After providing the first year of results (at the start of each subsequent year), a normalised range of results (by estimating from historical data) for each nuclear site will be provided and to agree trigger point levels for high or unusual results. e) Trigger point and investigation reports. After providing first year of results from the contract, Cefas will identify whether the result from a particular site is within or exceptional to the normal range of results and highlight any exceptional events to the FSA's representative, to enable discussion of the result and an investigation of the analytical procedures and sample collection/authenticity. f) Any samples that are subject to investigation following high or unusual results will be stored for the full duration of the contract (using appropriate storage facilities including restricted radiological areas, if necessary), unless authorised to disposed of earlier by the FSA's representative (by appropriate means, abiding by radioactive disposal regulations).

	• Undertaking additional analysis and sample preparation in support of emergency response (or for other small-scale work). The cost in the first instance shall be offset against any non-analysis of routine samples. • Providing results for small scale incidents such as imported food investigations and thus mitigate our shared liability for food perishing, damage to food stuffs and reputation of those affected. Samples will be collected by the Port Health authority officials (with whom Cefas may need discuss details and resolve issues) and delivered to the laboratory. Due to the nature of this type of incident, it is expected that the sample(s) would be analysed, and results reported within 6 working hours of receipt for a gamma scan. The cost in the first instance shall be offset against any non-analysis of routine samples. • Providing advice on all monitoring aspects (collection and analysis) on the requirement by the Food Standards Agency to initiate small-scale changes to the annual monitoring schedule, from issue arising from recent habits surveys, unusual/high results, site issues, discharge exceedance levels, public enquiries etc.
11	**To host data that can provide time trend information when requested, related to either species or location. This will include:** • Hosting results, for FSA to have access to historical information (for time trend analysis) of the sample information and analytical results. • If approved by FSA, Cefas will develop a geodatabase to include full details of the sample information and analytical results, making the results of the FSA monitoring programme easily accessible, allowing FSA access to historical and new radiological results.

2: DESCRIPTION OF APPROACH/SCOPE OF WORK

A. APPROACH/SCOPE OF WORK

Please describe how you will meet our specification and summarise how you will deliver your solution. You must explain the approach for the proposed work. Describe and justify the approach, methodology and study design, where applicable, that will be used to address the specific requirements and realise the objectives outlined above. Where relevant (e.g., for an analytical survey), please also provide details of the sampling plan.

[redacted]