

Bidder Pack

Project Title: High Pressure Washing for Radiological Decontamination of Concrete Surfaces

Procurement Reference Number: 36959

ITT Number: 10590

August 2022

Version Date: October 2021 (Version 1.0)

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Section 1: The Invitation

Defra group Commercial on behalf of Defra group and its Arm's Length Bodies invite you to bid in this competition.

The Bidder Pack comes in two parts.

This first part, **The Core Requirements**, provides details of the General Requirements, Government Transparency Agenda and Government Priorities.

The second part, **The Procurement Specific Requirements**, provides details of the Specification Requirements, Terms and Conditions of Contract, Evaluation Methodology, Procurement Timetable, and Definitions.

The Definitions that apply to both parts can be found in Section 7.

The tendering process seeks to determine the Most Economically Advantageous Tender (MEAT). The Authority will evaluate the Tenders using the tender evaluation criteria and weightings listed in Section 4, Evaluation Methodology.

1.1. The Opportunity

This opportunity is advertised by Defra group Commercial on behalf of Defra's Chemical, Biological, Radiological and Nuclear (CBRN) Emergencies Team.

The CBRN Emergencies team are responsible for:

- Coordinating the recovery from CBRN incidents in England.
- Coordinating the recovery following a major accidental release of hazardous materials in England.
- Ensuring local authorities have access to appropriate capability to remediate and decontaminate affected areas of the UK (including devolved administrations and British Overseas Territories) following a CBRN incident.

When not recovering from a CBRN event, Defra develops policy and operational capability to use during the recovery phase of a CBRN event by working closely with cross government colleagues, academia, and industry. This opportunity entails undertaking small scale research to investigate the suitability of high-pressure washing for decontaminating UK concrete building materials following a radiological or nuclear incident. Further information about this opportunity is provided in Section 2: The Specification of Requirements.

1.2. Procurement Plan and Timetable

The timetable below is subject to change from time to time as notified by the Authority. All Tenderers will be informed via the Authority's <u>eSourcing System</u>.

Procurement Activity	Anticipated Date	
Publish Contracts Finder Notice and Bidder Pack	17 th August 2022	
Clarification deadline	Date	Time
	16 th September 2022	14:00 GMT
Bidder Pack / ITT response date	Date	Time
	23 rd September 2022	12:00 GMT
Compliance Checks	23 rd September 2022	
Evaluation	23 rd September 202 September 2022	2 – 26 th
Moderation Meeting	27 th September 2022	
Produce Contract Award Report and Draft Letters	29 th September 2022	
Approval of Contract Award Report	30 th September 2022	
Issue Notification of Intention to Award letters	03 rd October 2022	
Discretionary Standstill Period	N/A	
Self-Declaration Due Diligence	TBC	
Finalise Contract and obtain approvals (if required)	07 th October 2022	
Contract award / contract issued	07 th October 2022	
Contract Start Date	10 th October 2022	
Publish Contract Award Notice and Redacted Contract	10 th October 2022	
Handover	10 th October 2022	
Service Commencement Date	10 th October 2022	
Contract End Date	31st March 2023	

All timescales are set using a 24-hour clock and when referring to "days" it means calendar days unless otherwise specified (for example, working days).

Variant Tenders

The Authority shall not accept variant Tenders.

For the avoidance of doubt, if the Authority has reserved a right to waive a requirement in this Bidder Pack and chooses to exercise such discretion, the Tender will not be considered a variant Tender.

Pricing Anomalies

If in the opinion of the Authority your Tender contains any pricing anomalies (for example apparent discrepancies between the financial submission and other parts of your response) the Authority may seek clarification. If the clarification response indicates that the pricing anomaly was the result of a clear and obvious error, in the interest of fairness the resulting change will be taken into consideration. If the clarification response results in a change to the initial tendered Commercial Response and price, it will not be taken into account.

Section 2: The Specification of Requirements

2.1. The Authority's Priorities

Defra's priority outcomes are to:

- Improve the environment through cleaner air and water, minimised waste, and thriving plant and terrestrial and marine wildlife.
- Reduce greenhouse gas emissions and increase carbon storage in the agricultural, waste, peat and tree planting sectors to help deliver net zero.
- Reduce the likelihood and impact of flooding and coastal erosion on people, businesses, communities and the environment.
- Increase the sustainability, productivity and resilience of the agriculture, fishing, food and drink sectors, enhance biosecurity at the border and raise animal welfare standards.

2.2. Overview of Requirement

High pressure washing (> 1000 psi) has been shown to be a promising concrete decontamination method following the Chernobyl and Fukushima nuclear power plant disasters. As clean-up of these historic accidents have shown, the degree of radionuclide penetration into the concrete matrix strongly influences the effectiveness of pressure washing treatments. However, radionuclide diffusion into urban surfaces is controlled by site-specific conditions, such as exact materials impacted. Accordingly, it is difficult to accurately evaluate UK contamination and decontamination phenomena on the basis of international data, and therefore must be studied under the specific conditions of interest. However, this has not been investigated and many uncertainties surrounding the interaction of radionuclides with UK concrete surfaces remain. To address these issues, it is necessary to characterise radionuclide penetration in UK concrete building materials and assess the implications for high pressure washing as a candidate decontamination method.

A better understanding of the relationship between radionuclide depth of contamination and the effectiveness of pressure washing conditions is of vital importance for Defra to establish reliable decontamination strategies. The work proposed in this project will inform the selection of the most appropriate high pressure washing parameters as part of wider UK radiation incident recovery planning. Therefore, this project will initially contaminate concrete samples (sourced from the UK urban environment) under laboratory conditions and perform depth resolved measurements to assess the state of contamination. The suitability of high pressure washing to remove radionuclides from the sourced concrete materials will then be

tested. The resulting data will help Defra make informed decisions when selecting operational procedures for practical application.

The project will involve two key stages:

Stage 1 - The focus of this stage will be to source suitable concrete samples from the UK built environment and then contaminate with strontium-85 (⁸⁵Sr), caesium-137 (¹³⁷Cs), and europium-152 (¹⁵²Eu) under laboratory conditions (Objective 1). These three radionuclides are considered to represent a credible source term and are expected to pose distinctive decontamination challenges following a major radiation incident. The contaminated samples will then be left to age (i.e. stored) for a maximum of 2 months. This aging period is considered representative of decontamination operations after a significant radiation incident. Thereafter, the depth of radionuclide penetration into the concrete coupons will be measured (Objective 2). **Further information on existing methods for determining radionuclide depth in concrete materials is provided in Section 2.4 (Methodology).**

Stage 2 - Following the depth characterisation of the contaminated materials, the focus of this project will switch to the decontamination. This stage of the project will determine the effect of three different water pressures (between 2,000 and 7,000 psi) on the radionuclide removal rates from the contaminated concrete samples (Objective 3). The potential for high pressure washing to induce aesthetic and/or physical damage to the decontaminated materials will be examined by visual inspection and appropriate microscopy technique(s) (Objective 4). This stage of the project *may* require the use of larger concrete samples than in stage 1. Guidance on sample dimensions is provided in Section 2.4 (Methodology).

2.3. Aim and Objectives

The aim of this project is to test the suitability of high-pressure washing procedures to decontaminate UK concrete surfaces contaminated with ⁸⁵Sr, ¹³⁷Cs, and ¹⁵²Eu. This aim will be achieved by contaminating concrete coupons, sourced from the UK urban environment, under laboratory conditions. The depth of radionuclide contamination will then be determined so to understand the decontamination results (which will be generated at a later stage of the project). Thereafter, contaminated coupons will be decontaminated using high pressure washing and the extent of contamination removal will be measured. The successful Tenderer is not permitted to develop new high pressure washing equipment from raw materials. Rather, it is expected that the successful Tenderer will have access to existing high pressure washing capability that suits the specification requirements, either directly (i.e., "in-house" capability), or indirectly (i.e., renting equipment through the use of subcontractor(s)). Tenderers who intend to use subcontractor(s) to deliver this project are required to identify and provide these third-party organisation(s).

The objectives of stage 1 of this project are:

- Source suitable concrete samples from the UK built environment and then contaminate with ⁸⁵Sr, ¹³⁷Cs, and ¹⁵²Eu under laboratory conditions (Objective 1).
- Measure radionuclide depth profiles after aging the contaminated samples for a maximum of 2 months. This aging period is considered representative of decontamination operations after a significant radiation incident (Objective 2).

The objectives of stage 2 of this project are:

- Determine the effect of three different water pressures (between 2,000 and 7,000 psi) on the radionuclide removal rates from contaminated concrete samples (Objective 3).
- Examine the potential for high pressure washing to induce aesthetic and/or physical damage to the decontaminated materials by visual inspection and appropriate microscopy technique(s) (Objective 4).

2.4. Methodology

Tenderers are required to submit one tender response only that fully meets the project aim and objectives. It is recommended that Tenderers incorporate the following considerations into their proposal:

- Tenderers are required to identify, obtain, and contaminate suitable concrete materials from UK built environment. Concrete samples comprising a wide range of ages must be sourced. That is, material age should be the critical parameter underpinning the sample selection process.
- Defra has selected ⁸⁵Sr, ¹³⁷Cs, and ¹⁵²Eu as the three contaminants to be used for this project. It is recommended that a surface concentration of 1 kBq / cm² (per radionuclide) is universally adopted, and this is achieved by pipetting an appropriate aqueous solution(s) containing the three radionuclides onto the concrete surface.
- Contamination must be measured by detecting the gamma emissions of the three target radionuclides (85Sr, 137Cs, and 152Eu).
- Tenderers are required to propose a methodology to assess radionuclide depth of
 contamination in the concrete matrices. Barescut et al. developed a sandpaper
 grinding procedure to determine the penetration of radionuclides into concrete
 coupons, and this was later adapted by other researchers (e.g., Jolin et al. 2019).
 This approach is the least resource intensive depth profiling method and therefore
 may be of interest to Tenderers.

- It is important to note that other methodologies have been reported within the literature to evaluate radionuclide penetration in concrete (e.g., Farfán et al., 2011; US EPA 2012; Yamada et al., 2019). These studies have typically found contamination within the first 100-1000 µm of the concrete surface. It is recommended that Tenderers consider relevant literature sources when preparing their methodology. A list of the literature cited in this document is provided in Section 2.12.
- A previous Defra funded project investigated ¹³⁷Cs contamination in various urban surfaces. Here, samples were prepared for analysis by cleaving perpendicular to the original upper surface and then mounting so as to present the fracture surface for characterisation. This enabled Cs measurements to be taken from the outer surface in towards the bulk. While Defra recommends Tenderers adopt an established depth profiling method (i.e., one that has been reported in the literature), proposals which utilise novel depth analysis procedures are welcome.
- In order to reduce the number of samples for analysis each individual concrete surface must be contaminated with all three radionuclides (where possible).
- Careful consideration should be given to the dimensions of the concrete samples to be used in this project. Where possible, the exposed sample surface area must be kept as low as reasonably practicable i.e., ~ 50 cm² and below.
- Defra recognises that larger samples (i.e., >> 50 cm² surface area) may be required to ensure sample resilience to the high-pressure water. In such an instance, it is recommended that only a small representative section of the sample surface is contaminated with ⁸⁵Sr, ¹³⁷Cs, and ¹⁵²Eu before the high-pressure washing treatment. An additional cutting step may be required to assess post-decontamination contamination levels.
- The successful Tenderer is not required to use identical sample dimensions throughout this project and may adjust samples sizes as appropriate. For example, the Tenderer may elect to use smaller samples for the depth profiling analysis and larger samples for the decontamination stage of the project.
- Previous researchers have employed a holding fixture to immobilise contaminated samples during high pressure washing (e.g., Nedyalkova, 2018). The use of a fixture eliminates the requirement for excessively large samples and is considered an acceptable approach by Defra.
- Defra welcomes alternative methodologies that deliver the project aim and objectives. This includes proposals that use surrogates to ⁸⁵Sr, ¹³⁷Cs, and/or ¹⁵²Eu.

2.5. Geographic area of Study

Tenderers should adopt a national-level approach when identifying suitable concrete materials to deliver this project. That is, the samples used in this project should be reflective of the diversity of concrete materials which exists throughout the UK built environment. More specifically, it is recommended that concrete samples comprising a wide range of ages are sourced. This is because Defra considers concrete age to be a key parameter underpinning radionuclide contamination and subsequent decontamination phenomena.

2.6. Project Outputs

Defra expects high quality outputs. Key outputs will need to be reviewed and commented on by Defra, potentially resulting in revisions needed. **Defra welcomes submissions that include opportunities for junior members of staff to undertake continuous personal development.** However, it is expected that more experienced team members would provide the necessary support and oversight to ensure quality outcomes.

Deliverables and milestones have been set by Defra in advance of beginning the contract period. Progress against milestones will be regularly monitored throughout the contract period. Continuous monitoring of the project will also be used to refine the scope and address issues which may arise.

Below are detailed the key deliverables within the project:

Project Deliverables	Detail of Deliverables	Responsible Party	Payment Schedule and Date of Completio n
Deliverable 1	Start-up meeting. Meeting to discuss the proposed scope and approach to the project.	Contractor & Defra Project Manager	14 th October 2022
Deliverable 2	A project plan sent to Defra. The project plan will provide an updated methodology and timetable (beyond the original proposal) following the start-up meeting between Defra and the Contractor.	Contractor & Defra Project Manager	28 th October 2022

Deliverable 3	Completion of contamination depth profiling analysis (stage 1). Contractor to submit results to Defra.	Contractor & Defra to review and sign-off	31 st March 2023 (50% payment)
Milestone 1	Completion of stage 1 of the project.		31 st March 2023
Milestone 2	Start of stage 2 of the project (subject to satisfactory completion of stage 1).		3 rd April 2023
Deliverable 4	Completion of decontamination work and post-decontamination analysis (stage 2).	Contractor & Defra to review and sign-off	3 rd October 2023 (40% payment)
Deliverable 5	Final report to be submitted to Defra. The report must contain an executive summary, overall conclusions, and implications for future research (stage 2).	Contractor & Defra to review and sign-off	10 th October 2023 (10% balance payment)

2.7. Timetable

Defra would like stage 1 of the project to start on 10th October 2022 and end on 31st March 2023. A 6-month extension to the project is available for stage 2 of the project, subject to satisfactory completion of stage 1. It is acceptable for Tenderers to submit a tender for stage 1 of the project only.

Defra is content to discuss alternative project start dates with the successful Tenderer. However, your preferred start date may not be available, and you should discuss this with Defra before submitting a tender.

2.8. Payment

The successful Tenderer will be paid by invoice following satisfactory completion of the above Deliverables 3 (50% of total cost – completion of stage 1), 4 (40% of total cost), and 5 (10% of total cost). Defra is content to discuss alternative payment schedules with the successful Tenderer. However, your preferred payment schedule may not be available, and you should discuss this with Defra before submitting a tender.

2.9. Reporting requirements

Defra will nominate a Project Manager who will be responsible for the day-to-day management of this contract and ensure it meets the project aim and objectives. The Defra Project Manager will monitor progress and provide advice, support, and guidance on project scope, methodology, policy focus, and project outputs. Meetings have been incorporated into the Programme of Work (see below) to discuss progress and to ensure timely support as required.

The successful Tenderer will be expected to appoint a Project Manager who will act as the main point of contact for Defra and who will be jointly responsible for the day-to-day management of the project. The successful Tenderer will be required to regularly update the nominated Defra Project Manager on project progress. As a minimum, this must be done via fortnightly emails, and when there are any significant issues. The successful tenderer is also expected to organise monthly meetings to update Defra on project progress. Due to the current coronavirus situation, all meetings will be held virtually e.g., over Microsoft Teams, Zoom, or via teleconference. Tenderers must therefore cost for up to ten one-hour meetings: one start up meeting (Deliverable 1) and nine-monthly meetings to discuss project progress (Weeks 6, 11, 16, 21, 26, 31, 36, 41, 46).

Specific deliverables will be required from the successful Tenderer during the course of this project (see Deliverable/Milestone table above). All reports must be produced in accordance with Defra templates for publications¹. The reports are anticipated to be provided as Microsoft Word. There may be other outputs required during the course of the project and Defra will negotiate any additional requirements with the successful Tenderer.

2.10. Security Classification

The security classification of this project is OFFICIAL. The successful Tenderer is not required to obtain security clearance for this project.

2.11. Audiences

The main audiences for this research are the Defra CBRN Emergencies Team and the Defra Analysis and Evidence for Floods, Water and Contaminants Team. Findings will be disseminated to people in UK Government who have interest in responding and/or recovering from CBRN emergencies. In general, Defra is content for the successful

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¹ The Authority will share the Templates with the successful Tenderer at the start-up meeting. Reports published using Defra Templates can be found on Science Search. For example, see FD2712:

 $[\]frac{\text{http://sciencesearch.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=201}{14\&FromSearch=Y\&Publisher=1\&SearchText=FD2712\&SortString=ProjectCode\&SortOrder=Asc&Paging=1}{0\#TimeScaleAndCost}$

Tenderer to publish the results of this work (e.g., in a peer reviewed scientific journal, conference proceedings, and/or a company website). However, this is subject to satisfactory completion of the project and the specific publication route. The Authority reserves the right to determine if and how results should be published.

2.12. References

- J. Barescut, D. Lariviere, T. Stocki, A. Gusarov, N. Il'icheva, A. Konoplev, S.D. Lee, K. Maslova, V. Popov, I. Stepina, "Fate and transport of radiocesium in urban building materials," Radioprotection 46, S265–S269, 2011.
- E. B. Farfán, S. P. Gaschak, A. M. Maksymenko, E. H. Donnelly, M. D. Bondarkov, G. T. Jannik, and J. C. Marra, "Assessment of (90)sr and (137)cs penetration into reinforced concrete (extent of "deepening") under natural atmospheric conditions," Health Physics, vol. 101, pp. 311–320, 2011.
- US. EPA, "Fate of Radiological Dispersal Device (RDD) Material on Urban Surfaces: Impact of Rain on Removal of Cesium," Tech. Rep. EPA/600/R-12/569, United States Environmental Protection Agency, Washington, DC, 2012.
- I. Nedyalkova, "Decontamination of Nuclear Plant Steels," PhD Thesis, University of Manchester, 2018.
- W. C. Jolin, M. L. Magnuson, and M. D. Kaminski, "High pressure decontamination of building materials during radiological incident recovery," Journal of Environmental Radioactivity, vol. 208-209, 105858, 2019.
- K. Yamada, Y. Takeuchi, G. Igarashi, and M. Osako, "Field Survey of Radioactive Cesium Contamination in Concrete After the Fukushima-Daiichi Nuclear Power Station Accident," Journal of Advanced Concrete Technology, vol. 17, pp. 659-672, 2019.

Section 3: Terms and Conditions of Contract

The Terms and Conditions of Contract for this procurement are DgC Short Form Services.

The Terms and Conditions are split into Core Terms and Contracting Authority Terms within the Annexes / Schedules, and details of the legal priority are similarly within the contract's Annexes/Schedules.

The Authority proposes to enter into Contract(s) for a maximum period of (6) months with the successful Tenderer(s) from 30th September 2022 to 30th March 2023 with an option of 6 months extension.

The anticipated commencement date is 10/10/2022.

Suggested Changes to Conditions of Contract

Tenderers may raise clarification questions relating to the amendment of contract terms during the clarification period only, as specified in the Timetable, if it can be demonstrated that there is a legal or statutory reason why they cannot be accepted. Where a legal or statutory reason cannot be substantiated the Authority has the right to reject the proposed changed.

Such requests must follow the Clarifications Sought by the Tenderer process set out in the Core Requirements element of this Bidder Pack.

Section 4: Evaluation Methodology

The overall aim of the evaluation process is to select the Tender that is the most economically advantageous to the Authority, having regard to the Authority's overall objectives and the criteria set out below.

Evaluation of Tenders comprise of the stages set out in the table below.

The Authority will carry out its evaluations of the Technical and Commercial elements according to the criteria, sub-criteria and weightings set out in the table below and **Appendix C**. The detailed questions and guidance are set out in the Authority's eSourcing:

Evaluation of Responses

Evaluation of Responses will be undertaken by a panel appointed by the Authority. Each panel member will first undertake an independent evaluation of the Responses applying the relevant evaluation criteria for each question. Then, a moderation meeting will be held at which the evaluation panel will reach a consensus on the marking of each question.

During the consensus meeting, the decision may be taken that a Response will not be carried forward to the next evaluation stage if the consensus view is that the Tenderer has failed to meet any minimum or mandatory requirements, and/or provided a non-compliant response.

Stage	Section Reference	Evaluation Criteria	Question Scoring/ Weighting (%)
Stage 1	Form of Tender	This stage is not scored but if you do not upload a complete, signed and dated Form of Tender in accordance with the instructions in Bravo, your Tender will be rejected as non-compliant.	Pass/Fail
Stage 2	Selection Stage:	This stage is designed to select those Tenderers who are suitable to deliver the Authority's requirements and will be evaluated in accordance with the criteria set out in Sections 1 to 5 of the response form in Bravo and Part 1 of this Section 2 below (in respect of economic and financial	Pass/Fail

		standing and technical and professional ability).	
		Failure to meet the stated selection criteria will result in a Response being rejected at this stage and no further assessment of the remainder of the Response (including the Tender) pursuant to the remaining stages below will be undertaken by the Authority.	
Stage 3	Technical & Professional Ability – Project Specific Requirements	This stage will be evaluated in accordance with the criteria set out in the Technical	Scored (see appendix C) F01 - Sustainability
	(Technical Questionnaire)	Questionnaire.	Weighting= Pass/ Fail
	Questionnancy	Some requirements are mandatory and if you cannot provide them your Tender may be rejected.	F02 - Health and Safety Weighting= Pass/ Fail
		Scored as 70% weighting of the total available score, consisting of the following breakdown of questions:	E01 - Methodology Weighting = 50% E02 - Organisational Experience and Capabilities
		breakdown or questions.	Weighting = 30%
			E03 – Project Management Weighting = 20%
Stage 4	Pricing Schedule	Prices will be evaluated in accordance with criteria set out in the Pricing Schedule on the ITT and Bravo.	Scored
Stage 5	Final score / Award	A Response which passes stage 1 and 2 will proceed to evaluation of Tenders in accordance with stages 3 to 5.	
		The final score is calculated as follows:	
		Total Technical Quality Requirements will make up to a maximum of 70% of total score (Stage 3).	

	Total Price Requirements will make up to a maximum of 30% of total score. (Stage 4)
	The most economically advantageous Tender will be the Tender with the highest final score.

- 1.1 Tenders will be evaluated on quality and price using the evaluation criteria set out in Bravo to determine which Tender is the most economically advantageous. The Authority will award the Contract to the Tenderer which submits the most economically advantageous tender which will be the highest scoring Tender after the weightings in clause 1.3 are applied.
- 1.2 Each question will be scored separately, and no reference will be made between the questions.
- 1.3 To ensure that the relative importance of both sets of criteria is correctly reflected in the overall score, a weighting system will be applied to the evaluation:
 - the total technical quality scores awarded will form 70% of the final score;
 - The score awarded for price will form **30%** of the final score.
- 1.4 Each scoring question in the quality evaluation is given a weighting to indicate the relative importance of that question in the overall quality score. Weightings for quality scores are provided with the evaluation criteria and are detailed on Bravo for each question in the response form. The evaluation criteria for price are set out in the Pricing Schedule.
- 1.5 Evaluation of Tenders will be undertaken by a panel appointed by the Authority. Each panel member will first undertake an independent evaluation of the Tenders applying the relevant evaluation criteria for each question. Then, a moderation meeting will be held at which the evaluation panel will reach a consensus on the marking of each question.
- 1.6 Questions asked by the Authority to evaluate submission's Technical Quality can be found on Bravo. These are repeated as Appendix C of this ITT for information purposes.
- 1.7 The method for scoring price can be found on Bravo.
- 1.8 The submissions against the Technical Quality questions E01 E03 will be evaluated using the following scoring criteria:

For a score of 100: Excellent - Response is completely relevant and excellent overall. The response is comprehensive, unambiguous and demonstrates a best-in-class thorough

understanding of the requirement and provides details of how the requirement will be met in full.

For a score of 70: Good - Response is relevant and good. The response demonstrates a good understanding and provides details on how the requirements will be fulfilled.

For a score of 50: Acceptable - Response is relevant and acceptable. The response provides sufficient evidence to fulfil basic requirements.

For a score of 20: Poor - Response is partially relevant and/or poor. The response addresses some elements of the requirements but contains insufficient / limited detail or explanation to demonstrate how the requirement will be fulfilled.

For a score of 0: Unacceptable - Nil or inadequate response. Fails to demonstrate an ability to meet the requirement.

If a Tenderer receives a 'Fail' in either question F01 or F02 they will be eliminated from the procurement. If a score of twenty (20) or less is awarded to a Tenderer's response to any scored question E01-E03 the Authority may choose to reject the Tender.

The commercial evaluation will be based on a total price and bidders will be required to provide a full price breakdown of the work package, and matched against milestones in the commercial workbook

Tenderers must provide a financial proposal, including rates and hours for each participating team member and costing analysed by work stages. The project is for a fixed cost. A breakdown of costs against each objective and against each key personnel including a detailed breakdown for equipment, consumables; overheads and travel costs are required. The Authority is keen to receive competitive Day Rates which must be set out in the "Commercial Workbook" (provided in the ITT pack); "Staff Costs" worksheet and ensure the details entered in the "Milestone" worksheet are that of the deliverables detailed in the specification.

The above is required to be uploaded to the 'Commercial Envelope' of Bravo.

Where subcontractors or joint contractors are used, a separate breakdown for each should be provided in addition to the overall project costs.

Day rates for all staff should be provided along with a general description of duties.

Tenderers will be required to submit a total fixed cost for completion of the project and include a breakdown of costs against each objective and against key personnel. Costs will need to be reasonable and competitive and offer value for money.

Evaluation

The calculation used is the following:

Score = Lowest Tender Price x 30% Maximum available marks

Tender Price

For example, if three Tender Responses are received and Tenderer A has quoted £3,000 as their total price, Tenderer B has quoted £5,000 and Tenderer C has quoted £6,000 then the calculation will be as follows:

Tenderer A Score = £3000/£3000 x 30% (Maximum available marks) = 30%

Tenderer B Score = £3000/£5000 x 30% (Maximum available marks) = 18%

Tenderer C Score = £3000/£6000 x 30% (Maximum available marks) = 15%

Commercial Pricing Breakdown applicable to this ITT is on Bravo. This should be downloaded; completed and attached to the commercial envelope.

*Please Note:

Tenderers must be aware that all bids are **submitted** in acceptance of agreed Defra terms and conditions of contract. Any clarifications regarding terms and conditions must be discussed & agreed during the tender period. No discussion of terms and conditions of contract shall be held following tender submission. Failure to agree with the terms and conditions of contract post tender shall result in a bid being deemed non-compliant.

Selection Questionnaire - Financial standing

The Authority will review the economic information provided as part of the Selection Questionnaire response to evaluate a Tenderer's economic and financial standing. The Authority's evaluation will be based on all the information reviewed and will not be determined by a single indicator. If, based on its assessment of the information provided in a Response, the Authority decides that a Tenderer does not meet the Authority's required level of economic standing, the Authority may:

- ask for additional information, including information relating to the Tenderer's parent company, if applicable; and/or
- require a parent company guarantee or a performance bond.

If the Authority decides that a parent company guarantee or performance bond is required, the Authority will reject a Response if the Tenderer is unable to offer a commitment to make such provision. In addition to the information provided in a Response, the Authority may, at its discretion, consult Dun & Bradstreet reports and other credit rating or equivalent reports depending on where a Tenderer is located.

The Authority's assessment of economic and financial standing will consider financial strength and risk of business failure. Financial strength is based on tangible net worth and is rated on a scale of 5A (strongest) to H (weakest) obtained from Dun & Bradstreet. There are also classifications for negative net worth and net worth undetermined (insufficient information). Financial strength will be assessed relative to the estimated annual contract value.

The Authority will also consider annual turnover.

In the case of a joint venture or a consortium bid, the annual turnover is calculated by combining the turnover of the relevant organisations in each of the last two financial years.

Risk of Business Failure is rated on a scale of 1 (minimal) to 4 (significant) obtained from Dun & Bradstreet. There is also a classification of insufficient information. The Authority regards a score of 4 as indicating inadequate economic and financial standing for this procurement. The Authority will also calculate and evaluate the Tenderer's:

- operating performance: growth or reductions in sales, gross profit, operating profit, profit before tax and earnings before interest, tax, depreciation, amortisation, exceptional items and profit/loss on sale of businesses;
- liquidity: net current assets, movements in cash flow from operations, working capital and quick ratios, and average collection and payments periods; and
- financial structure: gearing ratios and interest cover.

Section 5: Performance Management Framework

1. Overview of the PMF

- 1.1. As part of the Authority's continuous drive to improve the performance of all Contractors, this PMF will be used to monitor, measure, and control all aspects of the Supplier's performance of contract responsibilities.
- 1.2. The PMF purpose is to set out the obligations on the successful Contractor, to outline how the successful Contractor's performance will be monitored, evaluated and rectified for performance.
- 1.3. The Authority may define any reasonable performance management indicators for the Contractor under the following categories:
 - Updates to Authority
 - Data Handling
 - Participatory Outputs
 - Reports
 - Presentations
- 1.4. The above categories are consistent with all Contract awards allowing the Authority to monitor Contractor' performance at both individual level and at the enterprise level with the individual Contractor.

2. Management of the PMF

- 2.1. Key Performance Indicators (KPI's) shall be monitored on a regular basis and shall form part of the contract performance review. Performance of KPI's will be reported by the Contractor to the Authority on monthly basis. The Contractor shall detail performance against KPI's in Monthly Reports and at quarterly Contract Meetings with the Authority, who will review this and make comments if any.
- 2.2. The Contractor shall maintain their own management reports, including a Risk and Issues Log and present these as requested by the Authority at any meeting requested by the Authority.
- 2.3. Any performance issues highlighted in these reports will be addressed by the Contractor, who shall be required to provide an improvement plan ("Remediation Plan") to address all issues highlighted within a week of the Authority request.

- 2.4. Key Performance Indicators (KPIs) are essential in order to align Contractor's performance with the requirements of the Authority and to do so in a fair and practical way. KPIs must be realistic and achievable; they also have to be met otherwise indicating that the service is failing to deliver. The successful Contractor will ensure that failure and non-performance is quickly rectified.
- 2.5. The Authority reserves the right to amend the existing KPI's detailed in section 6 below or add any new KPI's. Any changes to the KPI's shall be confirmed by way of a Contract Change Note.

Section 6: Key Performance Indicators (KPI's)

KPI and deliverables	Measurement	Fail	Acceptable
1. Updates to Authority	Regular, and ad hoc, verbal and written updates summarising progress and challenges	Updates are infrequent or lacking enough detail to assure the Authority of progress	
2. Data handling	Secure, accessible and organised collecting and storage of data/information relating to the project	Data, information and files are not kept up-to-date and are unavailable	All project data and information are up-to-date and accessible to the Authority
a. Evidence synthesis	Collection and storage of external and internal evidence sources, as well as any annotations / analysis	•	
3. Reports	Draft iterations and final reports, including comment logs and requested changes	Reports are late, incomplete and do not adequately address feedback from the Authority or deliverables	time, complete, incorporate comments and address all

Section 7: ITT Glossary and Appendices

7.1. Definitions

Unless the context otherwise requires, the following words and expressions used within the Bidder Pack (except for Section 3: Terms and Conditions of Contract) shall have the following meanings to be interpreted in the singular or plural as the context requires.

TERM	MEANING
"Authority"	The Department for Environment, Food and Rural Affairs (Defra)
"Bidder Pack"	this invitation to tender and all related documents published by the Authority and made available to Tenderers.
"Contract"	the contract (set out in Appendix B) to be entered into by the Authority and the successful Tenderer.
"EIR"	the Environmental Information Regulations 2004 (as amended) together with any guidance and/or codes of practice issued by the Information Commissioner or any Government Department in relation to those Regulations.
"eSourcing system"	eSourcing system is the eSourcing system used by the Authority for conducting this procurement, which can be found at http://defra.eSourcing systemsolution.co.uk
"FOIA"	the Freedom of Information Act 2000 (as amended) and any subordinate legislation made under that Act together with any guidance and/or codes of practice issued by the Information Commissioner or any Government Department in relation to that legislation.
"Form of Tender"	means the form contained in Annex 2 to the Procurement Specific section of the Bidder Pack which must be signed, scanned and uploaded into the Authority's eSourcing System by the Tenderer to indicate that it understands the Tender and accepts the various terms and conditions and other requirements of participating in the exercise.

"Information"	
mormation	means the information contained in the Bidder Pack or sent with it, and any information which has been made available to the Tenderer by the Authority, its employees, agents or advisers in connection with the procurement.
"Involved Person"	means any person who is either working for, or acting on behalf of, the Authority in connection with this procurement and/or the Contract including, without limitation, any officer, employee, advisor, agent, member, partner or consultant".
"Pricing Schedule"	the form accessed via eSourcing system in which Tenderers are required to submit their pricing information as part of a Tender.
"Regulations"	the Public Contracts Regulations 2015.
"Relevant Body	means any other organisation, body or government department that is working with or acting on behalf of the Authority in connection with this procurement and/or the Contract including, without limitation, its officers, employees, advisors, agents, members, partners or consultants.
"Response"	means the information submitted in response to the Bidder Pack via the online response forms on eSourcing system including the Tenderer's formal Tender.
"Specification of Requirements"	the Authority's requirements set out in Section 2 of the Bidder Pack Procurement Specific Requirements.
"Tender"	the formal offer to provide the goods or services descibed in section 1.1 of part 1 of the Bidder Pack and comprising the responses to the questions in eSourcing system and the Pricing Schedule.
"Tenderer"	anyone responding to the Bidder Pack and, where the context requires, includes a potential tenderer.
"Timetable"	the procurement timetable set out in Section 1 of the Bidder Pack Procurement Specific Requirements.

7.2. APPENDIX A

FORM OF TENDER

To be returned by 12:00pm (GMT time) on 23rd September 2022.

Victor Mpehla Procurement Advisor Department for Environment, Food and Rural Affairs Procurement and Commercial Function

TENDER FOR THE: High Pressure Washing for Radiological Decontamination of Concrete Surfaces

Tender Ref: project 36959.

ITT 10590

- 1. We have examined the invitation to tender and its schedules set out below (the **ITT**) and do hereby offer to provide the goods and/or services specified in the ITT and in accordance with the attached documents to the Authority commencing date **10/10/2022** for the period specified in the ITT.
 - Tender Particulars (Section 1)
 - Specification of Requirements (Section 2)
 - Form of Tender (Appendix A)
 - Authority's Conditions of Contract (Appendix B)
- 2. If this tender is accepted, we will execute the Contract and any other documents required by the Authority within 10 days of being asked to do so.
- 3. We agree that:
 - a. before executing the Contract substantially in the form set out in the ITT, the formal acceptance of this tender in writing by this Authority or such parts as may be specified, together with the documents attached shall comprise a binding contract between the Authority and us;
 - b. pursuant to EU Directive 1999/93/EC (Community Framework for Electronic Signatures) and the Electronic Communications Act 2000, the Contract may be executed electronically using the Authority's electronic tendering and contract management system, Bravo;
 - c. we are legally bound to comply with the confidentiality provisions set out in the ITT;

- d. any other terms or conditions or any general reservation which may be provided in any correspondence sent by the Authority in connection with this procurement shall not form part of this tender without the prior written consent of the Authority;
- e. this tender shall remain valid for 120 days from the closing date for tenders specified in the ITT; and
- f. the Authority may disclose our information and documents (submitted to the Authority during the procurement) more widely within Government for the purpose of ensuring effective cross-Government procurement processes, including value for money and related purposes.

4. We confirm that:

- a. there are no circumstances affecting our organisation which could give rise to an actual or potential conflict of interest that would affect the integrity of the Authority's decision making in relation to the award of the Contract; or
- b. if there are or may be such circumstances giving rise to an actual or potential conflict of interest, we have disclosed this in full to the Authority.
- 5. We undertake and it shall be a condition of the Contract that:
 - a. the amount of our tender has not been calculated by agreement or arrangement with any person other than the Authority and that the amount of our tender has not been communicated to any person until after the closing date for the submission of tenders and in any event not without the consent of the Authority;
 - b. we have not canvassed and will not, before the evaluation process, canvass or solicit any member or officer, employee or agent of the Authority or other contracting authority in connection with the award of the Contract and that no person employed by us has done or will do any such act; and
 - c. made arrangements with any other party about whether or not they may submit a tender except for the purposes of forming a joint venture.
- 6. I warrant that I am authorised to sign this tender and confirm that we have complied with all the requirements of the ITT.

Signed	 	
Date		
In the capacity of		

Authorised to sign Tender for and on behalf of	
Postal Address	
Post Code	
Telephone No.	
Email Address	

7.3. APPENDIX B

AUTHORITY'S CONDITIONS OF CONTRACT

Upload on Bravo

7.4. APPENDIX C

TECHNICAL EVALUATION QUESTIONS

In line with DEFRA policy, we will be awarding a contract to the Most Economically Advantageous ITT response (MEAT).

The overall score is broken down as follows: 70% of the overall score will be awarded for technical criteria and 30% of the overall score will be awarded for commercial.

Please note responses will be assessed against demonstration of understanding of the Specification as attached above.

The technical evaluation criteria that will be used to assess responses are set out in the table below. The Technical criteria is weighted according to its significance to the project, and this will be applied using the following scoring methodology:

Scoring Criteria

Scoring criteria

E01 - E03 will be scored using the following scoring criteria:

- For a score of 100: Excellent Response is completely relevant and excellent overall. The response is comprehensive, unambiguous and demonstrates a best-in-class thorough understanding of the requirement and provides details of how the requirement will be met in full.
- For a score of 70: Good Response is relevant and good. The response demonstrates a good understanding and provides details on how the requirements will be fulfilled.
- For a score of 50: Acceptable Response is relevant and acceptable. The response provides sufficient evidence to fulfil basic requirements.
- For a score of 20: Poor Response is partially relevant and/or poor. The
 response addresses some elements of the requirements but contains
 insufficient / limited detail or explanation to demonstrate how the
 requirement will be fulfilled.
- For a score of 0: Unacceptable Nil or inadequate response. Fails to demonstrate an ability to meet the requirement.

	If you score 20 or less in respect of questions E01 - E03 then you may be eliminated from the procurement.				
		er receives a 'Fail' in any of the questions on Sustainability and, Safety Policy they will be eliminated from the procurement.			
Detailed	Criteria	Weighting	Description		
technical	F01 Sustainability	Pass/Fail	The Authority has set itself challenging commitments and targets to improve the environmental and social impacts of its estate management, operation, and procurement. These support the Government's green commitments. The policies are included in the Authority's sustainable procurement policy statement published at: https://www.gov.uk/government/publications/defrasustainable-procurement-policy-statement Within this context, please explain your approach to delivering the services and how you intend to reduce negative sustainability impacts. Please discuss the methods that you will employ to demonstrate and monitor the effectiveness of your organisation's approach. Your response must be a maximum of 2 sides of A4, font size 12 addressing the below questions. Any responses exceeding 2 sides of A4 will not be evaluated beyond the last page. A "Fail" will be allocated to a response that does not demonstrate any evidence of Sustainability policies. Your response should: • demonstrate that the Tenderer has a sustainability policy in place; and • provide evidence as to how the Tenderer will reduce the environmental impacts of delivering this contact.		

		Please upload a document with the filename: F01 Your Company Name.		
F02 Health and Safety	Pass/fail	Your response must be a maximum of 2 sides of A4, font size 12 addressing the below questions. Any responses exceeding 2 sides of A4 will not be evaluated beyond the last page.		
		A "Fail" will be allocated to a response that does not demonstrate any evidence of addressing health and safety.		
		Tenderers should provide details of suitably robust procedures for health and safety, including how they will conduct measurements in a safe manner.		
		Please upload a document with the filename: F02 Your Company Name.		
E01 Methodology	50%	Please detail your methodology to meet the project aim and objectives detailed in this specification. Any input required from the Authority should be outlined. Further information is available in Sections 2.3 and 2.4 of the specification (Aims and Objectives and Methodology, respectively).		
		Your response must be a maximum of 6 sides of A4, font size 12. Any responses exceeding 6 sides of A4 will not be evaluated beyond the last page. Please upload a document with the filename: "E01_Your Company Name".		
		Your response must include the following:		
		 Proposals for how you will approach Objective 1 to source suitable concrete materials from the UK built environment and then contaminate with strontium-90 (90Sr), caesium-137 (137Cs), and europium-152 (152Eu) under laboratory conditions. 		
		 Proposals for how you will approach Objective 2 to measure radionuclide depth profiles after aging the contaminated samples under timescales representative of decontamination operations after a 		

significant radiation incident (i.e. up to 2 months).

- Proposals for how you will approach
 Objective 3 to determine the effect of three
 different water pressures (between 2,000
 and 7,000 psi) on the radionuclide removal
 rates from contaminated concrete samples.
- Proposals for how you will approach
 Objective 4 to examine the potential for high
 pressure washing to induce aesthetic and/or
 physical damage to the decontaminated
 materials by visual inspection and
 appropriate microscopy technique(s).

It is strongly recommended that the following points are considered when submitting your methodology:

- Tenderers are required to identify, obtain, and contaminate suitable concrete materials from UK built environment. Concrete samples comprising a wide range of ages must be sourced. That is, material age should be the critical parameter underpinning the sample selection process.
- Defra has selected ⁸⁵Sr, ¹³⁷Cs, and ¹⁵²Eu as the three contaminants to be used for this project. It is recommended that a surface concentration of 1 kBq / cm² (per radionuclide) is universally adopted, and this is achieved by pipetting an appropriate aqueous solution(s) containing the three radionuclides onto the concrete surface
- Contamination must be measured by detecting the gamma emissions of the three target radionuclides (85Sr, 137Cs, and 152Eu).
- Tenderers are required to propose a methodology to assess radionuclide depth of contamination in the concrete matrices.
 Barescut et al. developed a sandpaper grinding procedure to determine the

penetration of radionuclides into concrete coupons, and this was later adapted by other researchers (e.g., Jolin *et al.* 2019). This approach is the least resource intensive depth profiling method and therefore may be of interest to Tenderers.

is important to note that other methodologies have been reported within the literature to evaluate radionuclide penetration in concrete (e.g., Farfán et al., 2011; US EPA 2012; Yamada et al., 2019). These studies have typically found contamination within the first 100-1000 µm of the concrete surface. It is recommended that Tenderers consider relevant literature sources when preparing their methodology. A list of the literature cited in this document is provided in Section 2.12.

- A previous Defra funded project investigated ¹³⁷Cs contamination in various urban surfaces. Here, samples were prepared for analysis by cleaving perpendicular to the original upper surface and then mounting so as to present the fracture surface for characterisation. This enabled Cs measurements to be taken from the outer surface in towards the bulk. While Defra recommends Tenderers adopt established depth profiling method (i.e. one that has been reported in the literature), proposals which utilise novel depth analysis procedures are welcome.
- In order to reduce the number of samples for analysis each individual concrete surface must be contaminated with all three radionuclides (where possible).
- Careful consideration should be given to the dimensions of the concrete samples to be used in this project. Where possible, the exposed sample surface area must be kept

		as low as reasonably practicable i.e., ~ 50 cm² and below. Defra recognises that larger samples (i.e., >> 50 cm² surface area) may be required to
		ensure sample resilience to the high- pressure water. In such an instance, it is recommended that only a small representative section of the sample surface is contaminated with ⁸⁵ Sr, ¹³⁷ Cs, and ¹⁵² Eu before the high-pressure washing treatment. An additional cutting step may be required to assess post-decontamination contamination levels.
		 The successful Tenderer is not required to use identical sample dimensions throughout this project and may adjust samples sizes as appropriate. For example, the Tenderer may elect to use smaller samples for the depth profiling analysis and larger samples for the decontamination stage of the project.
		 Previous researchers have employed a holding fixture to immobilise contaminated samples during high pressure washing (e.g., Nedyalkova, 2018). The use of a fixture eliminates the requirement for excessively large samples and is considered an acceptable approach by Defra.
		 Defra welcomes alternative methodologies that deliver the project aim and objectives. This includes proposals that use surrogates to ⁸⁵Sr, ¹³⁷Cs, and/or ¹⁵²Eu.
E02 Organisational Experience and Capabilities	30%	Please provide details of the proposed project team and team structure that you intend to use to deliver this project, including any sub-contractors and/or associates. Please provide details of your capabilities and previous experience relevant to this requirement.

T	1	T
		Your response must be a maximum of 4 sides of A4, font size 12. Any responses exceeding 4 sides of A4 will not be evaluated beyond the last page. Please upload a document with the filename: 'E02_Your Company Name'.
		Your response must include the following:
		 Details of the proposed project team, including the team structure (e.g., as an organogram).
		 Pen Portraits to demonstrate that key individuals have the relevant expertise and recent experience (within the last 3 years) to deliver this project. Defra welcomes project team proposals that include opportunities for junior members of staff to undertake continuous personal development. However, it is expected that more experienced team members would be available to provide the necessary oversight to ensure quality and timely outcomes. A short overview (e.g., a summary table) of resources available to deliver this project.
		Details of any conflicts of interest.
E03 Project Management	20%	Please provide details of the proposed project management arrangements, including the proposed timetable for the project and a Gantt chart.
		Your response must be a maximum of 1 side of A4, font size 12, with an additional one side of A4 for a Gantt chart (or similar). Any responses exceeding 1 side of A4 (excluding the Gantt chart) will not be evaluated beyond the last page. Please upload a document with the filename: 'E03_Your Company Name'.
		Your response must include the following:
<u> </u>	<u>l</u>	1

•	Α	Gantt	chart	(or	similar)	illustrating	the
	pro	ogramm	ne of w	ork.	This mus	t include all	key
tasks, deliverables, and occasions where Defra							
input would be required.							

- A detailed table (or similar) that identifies the number of person days allocated to each key task and their positions (roles) held. The cost is to be submitted in the Commercial Workbook.
 Please note that no prices can be included within the Technical Workbook.
- Identify the individual(s) who will have overall responsibility for the contract and a representative available for day-to-day contact with Defra's Project Manager.

Scoring and calculation method

Evaluation

The calculation used is the following:

Score = Lowest Tender Price x 30% Maximum available marks

Tender Price

For example, if three Tender Responses are received and Tenderer A has quoted £3,000 as their total price, Tenderer B has quoted £5,000 and Tenderer C has quoted £6,000 then the calculation will be as follows:

Tenderer A Score = £3000/£3000 x 30% (Maximum available marks) = 30%

Tenderer B Score = £3000/£5000 x 30% (Maximum available marks) = 18%

Tenderer C Score = £3000/£6000 x 30% (Maximum available marks) = 15%

7.5. APPENDIX D

Commercially Sensitive Information (Attached)
Please re-produce and upload as an attachment on Bravo if applicable

TENDERER'S COMMERCIALLY SENSITIVE INFORMATION	POTENTIAL IMPLICATION OF DISCLOSURE	DURATION OF COMMERCIALLY SENSITIVE INFORMATION

7.6. APPENDIX E

PRICING SCHEDULE

For Completion (Available on Bravo. Please upload to Bravo)

7.7. APPENDIX F

STAFF TIME IN DAYS TEMPLATE

For Completion (Available on Bravo. Please upload to Bravo)