

Our Ref: SC200006

Your Ref:

Date: 2/12/2020

Dear Sirs/Madams,

**Contract Ref:**

**Contract Title: Integrity of decommissioned onshore oil & gas wells: Scoping source-pathway-receptor processes for analysis, prediction and monitoring of pollutant containment**

You are invited to quote for the above in accordance with the enclosed documents.

Instructions on what information we require you to provide is in Section 4 of the following Request for Quotation document.

Your response should be returned to the following email address by 17:00, 4th January 2021.

roger.timmis@environment-agency.gov.uk and jon.barrett@environment-agency.gov.uk.

Please confirm, by email, receipt of these documents and whether or not you intend to submit a quote.

If you have any queries, please do not hesitate to contact me.

Yours sincerely

Roger Timmis

Title: Research Manager, Air

E-mail: roger.timmis@environment-agency.gov.uk

Telephone: 07768145956

**The Environment Agency**, c/o Lancaster Environment Centre, Lancaster University, LANCASTER, LA1 4YQ

**Request for Quotation**

**Ref: SC200006**

**Title: Integrity of decommissioned onshore oil & gas wells: Scoping source-pathway-receptor processes for analysis, prediction and monitoring of pollutant containment**

**Section 1**

**Who is the Environment Agency?**

We are an Executive Non-departmental Public Body responsible to the Secretary of State for Environment, Food and Rural Affairs. Our principal aims are to protect and improve the environment, and to promote sustainable development.

Further information on our responsibilities, Corporate Plan and how we are structured can be found on our Website.

<https://www.gov.uk/government/organisations/environment-agency/about>

**What do we spend our money on?**

We are a major procurer of goods and services within the UK, spending circa £600M per annum, our major spend areas are:

* Flood and Coastal Risk Management (design, construction and maintenance)
* ICT and Telecommunications
* Vehicles and Plant
* Environmental Consultancy and Monitoring
* Temporary Staff and Contractors
* Facilities Management, Energy and Utilities
* Flood Management and Water Related Services

**What do we need from our suppliers?**

Suppliers are vital in supporting the delivery of our corporate plan. We aim to support the economy and society whilst delivering more environmental outcomes for every pound we spend. In many areas we are leading the way on environmental and technical developments. It is our role to ensure that suppliers clearly understand our corporate aims and objectives and know that we are committed to delivering the best value most sustainable solutions, taking into account the whole life cost of our procurement decisions. We promote diversity and equality and treat all of our suppliers fairly.

Our procurement strategy may be of interest to you as a potential supplier. It sets out our priorities and key commitments in a range of areas such as delivering our corporate plan, Government policy, supplier management and sustainable procurement:

<https://www.gov.uk/government/organisations/environment-agency/about/procurement#procurement-strategy>

**Government changes and collaboration**

Since 1 April 2013, the Environment Agency is no longer responsible for delivering the environmental priorities of Wales. This is now the remit of Natural Resources Wales (NRW).Further information can be found here:

<http://naturalresources.wales/splash?orig=/>

By bidding for this requirement, you may also be approached by other members of the Defra network, NRW or other government departments that are specifically named in the tender document.

**Further information**

For further information and to see our commitments to Diversity and Equality, please visit our website.

<https://www.gov.uk/government/organisations/environment-agency/about/procurement>

https://www.gov.uk/government/organisations/environment-agency/about/equality-and-diversity

Also, are you up to date on environmental legislation? See links below for further information.

Waste and Environmental Impact - <https://www.gov.uk/browse/business/waste-environment>

Environmental Regulations - <https://www.gov.uk/browse/business/waste-environment/environmental-regulations>’

**Section 2**

**Summary**

This work is being commissioned by the Research team within the Research, Analysis and Evaluation department. The work of the Environment Agency’s Research, Analysis and Evaluation department is a key ingredient in the partnership between research, guidance and operations that enables the Environment Agency to protect and restore our environment.

The team focuses on four main areas of activity:

* Setting the agenda, by providing the evidence for decisions;
* Maintaining scientific credibility, by ensuring that our programmes and projects are fit for purpose and executed according to international standards;
* Carrying out research, either by contracting it out to research organisations and consultancies or by doing it ourselves; Delivering information, advice, tools and techniques, by making appropriate products available

## Contract Length

It is anticipated that this contract will be awarded to one supplier for a period of 2.5 Months to end no later than 31/03/2021. Prices will remain fixed for the duration of the contract award period. We may at our sole discretion extend this contract to include related or further work. Any extension shall be agreed in advance of any work commencing and may be subject to further competition. Any amendment to contract prices for the extensions are to be by negotiation.

The Environment Agency Conditions of Contract for Research (Appendix C) shall apply to this contract.

This contract shall be managed on behalf of the Agency by the Project Manager.

## Contact Details and Timeline

Roger Timmis, roger.timmis@environment-agency.gov.uk will be your contact for any questions linked to the content of the quote pack or the process. Please submit any questions by email and note that both the question and the response will be circulated to all tenderers.

Key elements of the process have been reviewed. Anticipated dates for planned activities are below:

|  |  |
| --- | --- |
| **Activity** | **Due Date** |
| Supplier responses for Request for Quote | 04/01/2021 17:00 |
| Evaluation of Request for Quote submissions | 08/01/2021 |
| Award of contract | 14/01/2021 |
| Project/Contract end date | 31/03/2021 |

It should be noted that these timescales and activities may be subject to change.

**Section 3**

## Evaluation Criteria

We will award this contract in line with the most economically advantageous tender (MEAT) as set out in the following award criteria:

* Price – 60%
* Quality – 40%

The following quality criteria are weighted in accordance with the importance and relevance attached to each one.

|  |  |
| --- | --- |
| Skill, experience and adequacy of staff resources (including for project management) | 30% |
| Project methodology (including project management oversight) | 25% |
| Experience of assessing risks from decommissioned wells and design of source, receptor, pathway models | 25% |
| Ability to deliver a successful project to time and budget | 20% |

The criteria listed above will be assessed on a 0 to 10 basis and will reflect the following judgements:

|  |  |
| --- | --- |
| **Rating of Response****The tenderer provides a response which in the opinion of the evaluators is:**  | **Score** |
| **Excellent:** Addresses all of the requirements and provides a response with relevant supporting information which does not contain any weaknesses, giving the Agency complete confidence that the requirements will be met. | 10 |
| **Very Good:** Addresses all of the requirements and provides a response with relevant supporting information, which contains very minor weaknesses, giving the Agency high confidence that the requirements will be met. | 8 |
| **Good:** Addresses all of the requirements and provides a response with relevant supporting information, which contains minor weaknesses, giving the Agency reasonable confidence that the requirements will be met.  | 6 |
| **Satisfactory:** Substantially addresses the requirements and provides a response with relevant supporting information which may contain moderate weaknesses, but gives the Agency some confidence that the requirements will be met.  | 4 |
| **Weak:** Partially addresses the requirements, or provides supporting information that is of limited relevance or contains significant weaknesses, and therefore gives the Agency low confidence that the requirements will be met. | 2 |
| **Nil:** No response or provides a response that gives the Agency no confidence that the requirements will be met.   | 0 |

**Bids must attain a score of “Satisfactory” or better in each quality criterion in order to progress to the overall evaluation of Price (60% weight) and Quality (40% weight).**

**Section 4**

**Information to be returned**

**Please note, the following information requested must be provided. Incomplete tender submissions may be discounted.**

Please complete and return the following information:

* details of the personnel you are proposing to carry out the service, including CV’s of your key personnel (incl. details of how you propose to maintain continuity of personnel e.g. under COVID);
* detail your recent experience of carrying out similar contracts;
* details of proposed methodology and programme of work;
* details of how you measure your success in each of the deliverables;
* completed Pricing Schedule (Appendix A);
* completed Prior Rights Schedule (Appendix B);
* confirmation that terms and conditions are accepted (Appendix C. Please note that the terms cannot be amended later).

**Section 5 Project Technical Specification**

**Integrity of decommissioned onshore oil & gas wells: Scoping source-pathway-receptor (SPR) processes for analysis, prediction and monitoring of pollutant containment**

5.1. Background

Responsibility for regulating onshore oil and gas (OOG) sites in England is shared between the Environment Agency (EA), the Oil & Gas Authority (OGA) and the Health & Safety Executive (HSE). Each organisation takes the lead on different phases and aspects of OOG regulation and on the research needed to support it. OGA leads on the initial licensing of sites. But when operations start responsibility extends to HSE who regulate Health & Safety (mainly on-site), and to EA who regulate to protect the environment from any impacts (mainly off-site) due to releases. After operations cease, HSE oversee decommissioning work (e.g. sealing of wells) to ensure it is done to a recognised standard; the Local Planning Authority also have a role in decommissioning. But when that work is finished, HSE’s remit ends and ongoing responsibility resides with the EA.

The EA’s ongoing responsibility stems from its duty to protect the environment in perpetuity from potential adverse impacts that could occur if decommissioned wells leak, as outlined in the 2018 Well Integrity Guidelines. This responsibility does not entail conventional permitting because, after a well is decommissioned, there is no “operator”, “permitted activity” or “permitted release”. Instead, it entails assessing the risk of leaks and managing it by developing predictions, monitoring and interventions - so that leaks are unlikely to occur or to be significant, and so that any liabilities arising are minimised or prevented e.g. liabilities on operators or landowners. In order to fulfil these responsibilities, there need to be methods for analysing, predicting and monitoring the containment of fugitive releases by decommissioned wells. This project supports the development of such methods.

Previous studies of decommissioned wells have used soil-gas and groundwater monitoring to check if wells have leaked into receiving environments e.g. into water and air. But such monitoring is inherently retrospective and does not provide a sufficient basis for protecting the environment in future. Specifically, it does not provide a sufficient basis for:

1. Quantifying and assessing the risk of leaks.
2. Predicting future containment performance – including over long timescales e.g. decades or more.
3. Incorporating new information e.g. on environmental processes or on the performance of well-sealing materials.
4. Planning and prioritising the monitoring of decommissioned wells in line with risk - including decisions on whether or not monitoring is needed, and on the type, location, frequency and duration of monitoring.
5. Advising on potential environmental impacts, interventions and liabilities that could arise because of leaks from legacy wells.

In order to undertake activities (a)-) the EA needs to develop a model of Source-Pathway-Receptor (SPR) processes at decommissioned wells that covers different timescales, geological settings, pollutants and well-engineering options. The model needs to be process-based, quantitative, and transferable or adjustable between different situations. This project will scope the information and methods needed to develop a SPR model, and will design and demonstrate a “Proof-of-Concept” model. The project will provide a foundation for further work, and will identify the requirements, options and activities for “next steps” to develop a comprehensive SPR model of containment by decommissioned wells.

5.2. Stakeholders and target audience

The project is being commissioned by the EA’s Research Analysis and Evaluation (RAE) department. The EA shares responsibility for regulating OOG sites with OGA and HSE. HSE need to be kept informed because the project could help to inform their decisions about decommissioning work e.g. about well-sealing materials. Similarly, OGA need to be kept informed because the project will inform public understanding of decommissioned OOG sites – and this may affect public acceptance of OGA’s licensing of sites. OOG operators are also stakeholders and they should be kept informed of the project through their representative body: UK Onshore Oil & Gas (UKOOG).

The main target audiences for the project in the EA are:

\* Research scientists in the RAE department.

\* Technical colleagues in EA’s Evidence & Business Directorate who manage EA’s OOG Programme

\* Regulatory officers who administer permits for OOG sites

5.3. Objectives

5.3.1 Overall objective

The overall objective is to research the information and processes needed for a Source-Pathway-Receptor model of pollutant containment at decommissioned OOG wells, so that a proof-of-concept model can be designed and demonstrated, and used to identify next steps for a comprehensive model.

5.3.2 Research questions

The development of a SPR model to simulate containment performance at decommissioned wells is a substantial task that needs a range of information, methods and data in the Earth, Chemical and Engineering Sciences. It is a novel undertaking that requires careful “problem definition”, scoping, and options appraisal at the start. These activities are the focus of the proposed project, which is a scoping study to answer the following research questions:

\* What SPR processes affect the containment performance of decommissioned wells, and how can these processes be identified, quantified and parameterised for different timescales, geological settings, pollutants & engineering options?

\* How can the components of a SPR model be combined to simulate decommissioned well systems, and what are the strengths, weaknesses, data requirements and IT implications of different model options?

\* What are the uncertainties and data gaps in the evidence on SPR processes at decommissioned wells, and how can they be addressed and prioritised so that regulatory activities (a)-(e) in Section 5.1 above can be undertaken using appropriate scientific information?

The down-hole environment at a decommissioned well is a relatively inaccessible environment from which to acquire data for validating and refining a SPR model. Consequently, there is limited scope to use down-hole data to check model performance and to guide model improvements empirically. Because data for empirical testing and refinement are limited, it is important to design a SPR model as rigorously as possible from the start – based on up-to-date scientific principles. The present project is a scoping study to support the initial design of a SPR model and its demonstration as a “Proof of Concept”. It addresses the above research questions and is a first step towards the required rigorous design.

The project will scope the design of a model that is deterministic (i.e. process-based), quantitative, and generic (i.e. transferable between sites and adjustable for different conditions, scenarios and timescales). A “Proof of Concept” model will be used to demonstrate the basic design. This model may have simplified processes, approximate quantities and limited transferability, but it should still show the potential for developing a deterministic, quantitative and transferable SPR model.

5.3.3 Scope

The study will:

* Investigate the processes, parameterisations and data needed for a source-pathway-receptor model to predict containment by decommissioned OOG wells.
* Focus on onshore situations involving exploration for, and/or extraction of, sub-surface fossil hydrocarbons. It therefore excludes, onshore situations involving non-fossil hydrocarbons, such as subsurface methane from landfills.
* Focus on onshore situations in England, although evidence from comparable situations elsewhere may be used to inform the work e.g. from situations with similar geology.
* Be a scoping study that investigates the potential and practicalities for modelling containment, and that identifies options, priorities and next steps for model development.
* Review past, current and emerging research on the use of SPR modelling to assess long-term integrity risks.
* Consider how model components can be designed for different source, pathway and receptor situations, and can be used to develop and demonstrate a proof-of-concept model for identifying SPR processes, scales and data requirements. The study will not deliver a comprehensive or operational model at this stage,
* Focus on SPR modelling of containment by decommissioned wells in order to protect environmental receptors, because that is within the Environment Agency’s remit. It will not cover modelling of risks to site workers because that is HSE’s remit. Similarly, it will not cover licensing aspects that are OGA’s remit. But the study will engage with HSE and OGA, so they are kept informed and can comment.
* Focus on the potential for releases to air and water. This includes releases of fluids (gases, liquids) to sub-surface media (e.g. groundwater, aquifers, soil gas) and surface media (e.g. surface waters, overlying atmosphere).
* Consider a range of: (a) potentially polluting substances, (b) spatial scales and (c) timescales. For example, it will consider: (i) toxic air pollutants and greenhouse gases, (ii) deep sources at the level of hydrocarbon reserves and shallow receptors at the level of aquifers and surface waters, (iii) containment over annual, decadal and century timescales.
* Consider a range of physical, chemical, geologic and hydrologic processes that could impair well integrity including: corrosion of well casings; degradation of cement and other sealing materials; distortion and fracture of engineered structures by rock deformation and soil creep; impacts from seismicity; impacts from past sub-surface activities such as mining subsidence; ingress of fluids through well structures and seals whose integrity has been impaired.
* Consider how the outputs from a SPR model may be used, for example: to simulate and prioritise risks from decommissioned wells; to influence informed decisions on decommissioning aspects during well design; to inform and influence protocols for well-sealing; to design proportionate and targeted monitoring regimes – including monitoring to acquire additional data for validating and refining SPR models; to predict risks over different timescales and geologic settings; to plan appropriate interventions.

5.4. Research Tasks

The contractor will scope and develop a SPR model for decommissioned wells, by undertaking the following research tasks:

\* A set of 10 tasks to design, demonstrate and assess an initial “Proof-of-Concept” model for SPR processes. The 10 tasks are described in Sections 5.4.1-5.4.10 and comprise the main sequence of project work.

\* An additional research task to illustrate uncertainties in retrospective methods of estimating methane emissions, based on measurements of methane in soil gas. This task is described in Section 5.4.11.

Tasks 5.4.1-5.4.10 Proof-of-Concept Modelling

5.4.1 **Review previous qualitative and/or retrospective approaches** to assessing fugitive release risks at decommissioned wells, and use the outputs to identify principles and evidence that may be used in a quantitative and predictive SPR model. For example, the previous approaches may be based on: monitoring; reported links between well/formation characteristics and fugitive releases; or expert judgment. They should cover both aqueous and gaseous releases.

5.4.2 **Review existing modelling** at active or closed wells in order to identify transferable methods or data, including different model types (e.g. deterministic, statistical), computation types (e.g. box model, analytical, finite difference), and databases (e.g. borehole logs, hydrogeology data). This review may consider other types of sub-surface modelling if the methods or data are relevant to simulating containment by decommissioned wells.

5.4.3 **Develop a conceptual SPR model** of the conditions and processes that operate at decommissioned wells and that can impair well integrity so as to cause fugitive releases. It should consider:

\* Sources, including sub-surface reservoirs of fossil hydrocarbons that may have been accessed or approached when wells were drilled, and any potentially polluting substances associated with those reservoirs.

\* Pathways, including sub-surface pathways that may have been sealed initially when wells were de-commissioned, but that may be re-opened later e.g. by well degradation. This covers natural and anthropogenic processes that cause degradation including:

- Short-term processes e.g. seismicity, including the creation or re-activation of faults.

- Medium-term processes e.g. corrosion; mining subsidence; soil creep; re-equilibration of local geology in response to surface-pressure changes caused by adding/subtracting overburden at landfills/quarries; brine ingress to fresh groundwater via wells due to over-abstraction and/or climate change.

- Long-term processes e.g. re-equilibration due to: the plastic deformation, dissolution or erosion of rock; post-glacial re-bound; isostasy.

\* Receptors, including aquatic, terrestrial and atmospheric media that may be harmed by polluting substances that migrate from sub-surface sources via pathways that are re-opened, or opened, by well-degradation.

The requirement to “consider” these aspects of Sources, Pathways and Receptors does not mean that all aspects should be included in detail in the conceptual model. But each aspect should be “considered” for inclusion, and a judgement made on if it is appropriate to (a) include it detail, (b) include it an simplified form, or (c) exclude it as insignificant.

The conceptual model should use a schematic flowchart to illustrate a basic SPR system. The basic flowchart should then be modified to cover different scenarios (e.g. scenarios with good or impaired well integrity), and used to illustrate changes between scenarios due to well degradation. The basic flowchart should include abatement processes that may intercept and decrease releases before they reach sensitive receptors e.g. methanotrophic bacteria in soil that may intercept and decrease sub-surface methane leaks.

5.4.4 **Develop a basic set of variables** that will be needed to quantify Source, Pathway and Receptor conditions in the conceptual model for different scenarios. This should consider:

\* For sources:

 - Positions, extents, geological settings of source reservoirs;

- Types, amounts and chemical characteristics of potentially-polluting substances in reservoirs, and the phases in which substances occur (e.g. gas, liquid); this includes naturally-occurring substances (e.g. methane, hydrogen sulphide, benzene, other Volatile Organic Compounds) and substances introduced by well operations (e.g. well kill fluid)

- Conditions of temperature, pressure and porosity in source reservoirs, and the types and quantities of other fluids (e.g. water, air) in those reservoirs that may carry or accompany leaks of polluting substances.

\* For pathways:

- Positions of well structures relative to sub-surface sources;

- Characteristics of the geologic settings that contain well structures, including their chemical, physical and deformation characteristics (e.g. solubility, plasticity, porosity, permeability and frangibility of rock);

- Different well designs and engineering practices for well construction and sealing; also the materials used to construct and seal wells, and their degradation characteristics (e.g. strengths and corrosion rates of well casings and sealants);

- Locations, magnitudes and timescales of pathway-opening processes (e.g. seismicity);

- Changes in physical conditions that accompany pathway-opening processes (e.g. changes in temperature, pressure);

- Occurrence and interception rates of sub-surface abatement processes (e.g. occurrence and abatement rates of methanotrophic bacteria in soil).

- Nature and extent of pathways between fugitive releases from decommissioned wells and sensitive receptors (e.g. groundwater pathways to aquifers, airborne pathways to residential areas); also dispersion and/or deposition processes within those pathways.

\* For receptors:

- Positions and types of sensitive receptors relative to decommissioned wells e.g. aquifers, overlying atmosphere;

- Levels of polluting substances that receptors can tolerate without harm.

The requirement to “consider” variables for Sources, Pathways and Receptors does not mean that all variables should be included in detail in the conceptual model. But each variable should be “considered” for inclusion, and a judgement made on if it is appropriate to (a) include it detail, (b) include it an simplified form, or (c) exclude it as insignificant.

5.4.5 **Design a “Proof of Concept” SPR model.** This will build on the conceptual model of conditions and processes in 5.4.3, and the basic set of variables in 5.4.4. It will consider what conditions, processes, and variables need to be quantified in a “Proof of Concept” model. It will also consider the requirement for the SPR model to be transferable or adjustable between different site conditions and scenarios

5.4.6 **Consider different options for implementing the “Proof of Concept” SPR model**. This will consider what types of calculation might be used in the model e.g. analytical, lumped, finite difference calculations. It will then select one type of calculation for initial development and demonstration. The choice of calculations affects the level of detail and data needed to implement the “Proof of Concept” SPR model, so that tasks 5.4.5, 5.4.6 and 5.4.7 are linked. The choice should be detailed enough to illustrate the principles and potential of SPR modelling at de-commissioned wells, but not so detailed that it requires data and resources beyond this scoping study.

5.4.7 **Parameterisation:** investigate methods and data for parameterising the processes and conditions in the “Proof of Concept” SPR model, and advise on where methods/data exist or are needed, and on computation options and IT requirements.

5.4.8. **Proof-of-concept testing**: show how the parameterised “Proof of Concept” SPR model can work for selected basic conditions and processes in Task 5.4.3, including how it can be used to assess risk, containment and impacts for different scenarios and timescales. The number of scenarios should be stated and sufficient to show the SPR model is transferable or adjustable to different conditions.

5.4.9 **Next steps and priorities**: use sensitivity and gap analysis to identify options for developing a comprehensive SPR model for operational purposes e.g. options for filling data gaps, refining parameterisations; validation against observations such as soil-gas data.

5.4.10 **Model applications**: provide initial commentary and examples of how an SPR model of decommissioned wells can be used to:

(a) Assess risks;

(b) Incorporate new and updated data/processes;

(c) Inform decisions on sealing methods and materials;

(d) Estimate sealing costs and benefits;

(e) Plan risk-informed monitoring;

(f) Consider potential liabilities from decommissioned wells

(g) Analyse and manage uncertainty.

(h) Transfer S-P-R methods to other sub-surface structures;

Task 5.4.11. Illustration of Uncertainties in Retrospective Methods of Estimating Emissions based on Methane in Soil Gas

In a retrospective study, Boothroyd et.al have measured methane concentrations in soil gas above decommissioned wells, and have used them to estimate rates of methane release to air (*Boothroyd IM, Almonda S, Qassima SM, Worrall F, Davies RJ. Fugitive emissions of methane from abandoned, decommissioned oil and gas wells. Science of the Total Environment 547 (2016) 461–469.* Their method of estimating uncertainties is necessarily based on several assumptions and approximations. Task 5.4.11 will estimate the uncertainties in these retrospective estimates using soil gas data, so that they can be compared later with the uncertainties in estimates based on SPR modelling.

In the present scoping study there is limited potential to compare uncertainties from retrospective studies and SPR modelling. This is because the SPR model is still at the “Proof-of-Concept” stage, so any assessment of its uncertainties is preliminary (as indicated in Task 5.4.10 (g)). However, it is still useful to estimate the uncertainties in retrospective methods like the Boothroyd study, so that the estimated uncertainties are available to compare with the uncertainties in SPR modelling at a later stage i.e. outside the current scoping project.

5.5. Deliverables

The contractor will deliver a report in the Environment Agency Research report template on gov.uk. The report will include:

\* A review of previous approaches to assessing the integrity of decommissioned wells (Tasks 5.4.1-5.4.2).

\* A conceptual SPR scheme for simulating containment by decommissioned wells, including details of the conditions processes and variables to be included in the model (Tasks 5.4.3-5.4.4).

\* A “Proof of Concept” SPR model for simulating containment by decommissioned wells (Task 5.4.5). This model should be made available as a downloadable product so it can be used for “next steps” studies e.g. in a follow-up contract.

\* A review of options for implementing the “Proof of Concept” SPR model and a selection of one model type for development as a demonstrator (Task 5.4.6).

\* Parameterisations for inputting to the “Proof of Concept” model, and results from testing it for different conditions, scenarios and timescales - including a commentary on data requirements and IT issues (Tasks 5.4.7-5.4.8)

\* Advice on “next steps”, priorities and costs for developing a comprehensive SPR model (Task 5.4.9).

\* Commentary on, and examples of, model applications (Task 5.4.10).

\* Uncertainty analysis of methane emissions estimated from soil gas measurements at decommissioned wells (Task 5.4.11)

As well as the project report, the contractor will deliver communications materials, including a non-technical summary in the EA template and a power point presentation for a general technical audience. The final report must be written and checked to a high standard so it is suitable for publication on Gov.UK. This includes checking by a technical editor e.g. for readability, consistency, correct nomenclature/units. A single point of contact should be named for liaison with EA throughout the project, and a back-up point of contact as a contingency. The Environment Agency will own the intellectual property arising from the research, and the contractor will need to consult the Environment Agency about any paper that they propose to write arising from the work e.g. for publication in a peer-reviewed journal.

5.6. Timescales

|  |  |
| --- | --- |
| Date  | Activity/deliverable  |
| 5 Jan ‘21 | Deadline for tenders |
| 12 Jan ‘21 | Contract Award |
| 15 Jan ‘21  | Inception meeting |
| 9 Feb ‘21 | Progress meeting/report |
| 2 Mar ‘21 | Progress meeting/report  |
| 23 Mar ‘21 | Progress meeting/draft report |
| 30 Mar ‘21 | Final report  |

5.7. Skills required

The successful contractor will have:

5.7.1 Excellent knowledge of Earth, Atmospheric and Hydrological Sciences, as needed to investigate Source, Pathway and Receptor processes at decommissioned wells

5.7.2 Significant experience of applying scientific methods to onshore oil and gas wells, including familiarity with procedures and materials for well construction and decommissioning. This includes knowledge of engineering practices and materials, and how they are adapted to particular geologic and environmental situations.

5.7.3 Major skills in designing, developing and demonstrating Source-Pathway-Receptor models for environmental systems, especially in relation to sub-surface processes and engineering.

5.7.4 Excellent understanding of risk assessment and uncertainty analysis in the environmental sciences, and ability to apply that understanding to “real world” geoscience situations.

5.7.5 Fair understanding of regulation at OOG sites, including the roles and responsibilities of operators, and different regulatory bodies. Also understanding of the regulations themselves, particularly in relation to well decommissioning.

5.7.6 Excellent communication skills, both verbally and in writing. This includes ability to engage effectively with stakeholders and specialists in industry, government and academia.

5.7.7 Effective project management skills, to organise, execute and implement a scoping project in a relatively short time (i.e. ~10 weeks) and taking account of COVID considerations.

**Section 6**

**Contract Management**

This contract shall be managed on behalf of the Agency by **Roger Timmis.** roger.timmis@environment-agency.gov.uk, Tel. 07768145956

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During the course of the project, the contractor will provide the Environment Agency’s Project Manager with a 3-weekly progress report detailing:

* progress and difficulties encountered with the project
* any proposed changes to the manner in which the project is run
* time spent on the project
* details of the financial spend during the previous month.

An Environment Agency project advisory group will be set up to act as the technical quality review panel for the work and outputs undertaken. It is likely that key outputs will be subject to external peer review. The project advisory group will review all draft reports produced by the contractor, prior to acceptance.

You should ensure that sufficient time is allowed within the project to consult with the project advisory group in directing the project. Approximately 1 week is likely to be required for the group to review a final draft document.

The contractor should allow enough time and costs for project meetings to discuss progress and agree future scope. Two project advisory group meetings are envisaged. One at the start-up of the project and one to discuss the draft report (which should have been made available at least one working week prior to the meeting). All project meetings and any other discussions needed, including project closure, will be conducted by teleconferencing.

We will raise purchase orders to cover the cost of the services and will issue to the awarded supplier following contract award.

Before the invoice is issued, a fee note must be emailed in advance to the contract manager for approval. All invoices must quote the purchase order number in order to be processed. A file copy invoice must be provided to the contract manager, on request. The timescale for payment of invoices will be up to 30 days after we have received a valid invoice.

It is proposed that full payment be made on acceptance of the final report. Alternative programmes of work and payment schedules will be considered

**Section 7**

**Sustainability Considerations**

We are committed to continually improving our sustainability performance. The Environment Agency has set itself tough objectives as a clear commitment and contribution to sustainable development throughout England. The Agency recognises that this can only be achieved through commitment from all sectors of society and it is intent on raising awareness amongst industry and commerce.

Contractors must adopt a sound proactive environmental approach, designed to minimise harm to the environment.

Environmental criteria should be considered as part of your tender submission with credit given for innovation. Factors to be considered could include areas such as:

* + - Paper use: All documents and reports prepared by consultants and contractors are produced wherever possible on recycled paper containing at least 100% post-consumer waste and printed double sided.
		- Meetings: To be held by videoconferencing only.
		- Packaging: should be kept to a minimum. Re-use and disposal issues must be considered.
		- Efficient Energy and Water Use.

**Diversity and Equal Opportunities**

We are committed to promoting equality and diversity in all we do and valuing the diversity of our workforce, customers and communities.  As a public body, we publish regular information about what our equality objectives are and how we’re meeting them.

<https://www.gov.uk/government/organisations/environment-agency/about/equality-and-diversity>

**Health and Safety**

Contractors will be responsible for making sure all required health and safety aspects including risk assessments are undertaken and required management measures are in place to protect worker exposure. This includes management of all partners, consortium members and subcontractors.

**IEM2020:**

## Sustainability Objectives

As the Environment Agency, our overarching aim is to protect and improve the environment for people and wildlife. Over the last 10 years we have achieved significant reductions in our environmental impacts that occur through our everyday operations. This included a 40% reduction in our carbon emissions and a 37% reduction in the number of miles we travel. This year we have launched our new Internal Environmental Management strategy to take us through to 2020, building on these successes and widening our ambition.

**Supply chain**

Our 2020 approach will have a very strong emphasis on the indirect impacts of our supply chain.

Our supply chain accounts for over 70% of our total environmental impacts.

Working with our supply chain we want to be world class in the area of environmental management. The environmental impacts of our work and that delivered by and through our supply chain must be reduced; environmental risks must be effectively managed and opportunities for enhancements investigated.

As an organisation, our environmental management system (EMS) is accredited to ISO14001 and EMAS standards. Our procurement activities form part of this system; driving environmental performance improvements across the value chain.

## Section 8

### Additional Information

### Copyright and confidentiality

Unless otherwise indicated, the copyright in all of the documentation belongs to the Environment Agency, and the documentation is to be returned to us with your tender. The contents of the documentation must be held in confidence by you and not disclosed to any third party other than is strictly necessary for the purposes of submitting your quote. You must also ensure that a similar obligation of confidentiality is placed upon any third party to whom you may need to disclose any of the documentation for the purposes of the tender.

### Accuracy of documentation

You should check all documentation; should any part be found to be missing or unclear you should immediately contact us at the address given in the covering letter. No liability will be accepted by the Environment Agency for any omission or errors in the documentation which could have been identified by you.

### Amendments to documentation

Prior to the date for return of tenders, we may clarify, amend or add to the documentation. A copy of each instruction will be issued to every Tenderer and shall form part of the documentation. No amendment shall be made to the documentation unless it is the subject of an instruction. The Tenderer shall promptly acknowledge receipt of such instructions.

### Alternative Offers

Alternative offers may be considered if they constitute a fully priced alternative and are submitted in addition to a quotation complying with the requirements of the Invitation to Quote Documents. If, for any reason you wish to submit an alternative offer without a fully compliant tender please contact us in accordance with the details in the covering letter.

## Continuity of personnel

The Contractor shall employ sufficient staff to ensure that the Services are provided at all times and in all respects to the Project Standard. It shall be the duty of the Contractor to ensure that a sufficient reserve of staff is available to ensure project delivery in the event of staff holidays, sickness or voluntary absence

The Environment Agency will be notified immediately of any changes to personnel associated with the project. The Contractor will ensure that every effort is made to replace outgoing staff with personnel of equal calibre and expertise. All new members of staff undertaking work for the Project will need to be agreed by the Environment Agency prior to commencement.

At all times, the Contractor shall only employ in the execution and superintendence of the Contract persons who are suitable and appropriately skilled and experienced.

## Intellectual property rights

All results, including material and tools produced, developed or paid for under this contract shall be the property of the Environment Agency.

## References

The Environment Agency may request recent and relevant references prior to the award of the project.

**Contract award**

This Request for Quote is issued in good faith but we reserve the right not to award any or all of this work.

### DATA PROTECTION ACT ADDENDUM TO SPECIFICATION

## Protection of personal data

In order to comply with the Data Protection Act 1998 the Contractor must agree to the following:

* You must only process the personal data in strict accordance with instructions from the Environment Agency.
* You must ensure that all the personal data that we disclose to you or you collect on our behalf under this agreement are kept confidential.
* You must take reasonable steps to ensure the reliability of employees who have access to personal data.
* Only employees who may be required to assist in meeting the obligations under this agreement may have access to the personal data.
* Any disclosure of personal data must be made in confidence and extend only so far as that which is specifically necessary for the purposes of this agreement.
* You must ensure that there are appropriate security measures in place to safeguard against any unauthorised access or unlawful processing or accidental loss, destruction or damage or disclosure of the personal data.
* On termination of this agreement, for whatever reason, the personal data must be returned to us promptly and safely, together with all copies in your possession or control.

# APPENDIX A - PRICING SCHEDULE

ALL COSTS QUOTED MUST BE EXCLUSIVE OF VAT

All costs must be quoted on this schedule. Any costs not detailed will not be paid.

**.**

**Staff Costs**

Please detail your task costs in the table below.

|  |
| --- |
| **Cost Proposal (To be completed by Supplier)** |
| **Tasks** | **Hourly Rate** | **No of Hours** | **Cost** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| Total Staff Costs  |  |
| **Expenses (please detail type, i.e. travel etc.)** |  |
| **Discounts applied (please detail)** |  |
| **Total Overall Cost**  |  |

**Other costs**

Please state any other costs that will need to be taken into consideration.

|  |  |
| --- | --- |
| **DESCRIPTION** | **COST** £ |
| **1. Other costs (please detail)** |  |
| **2. Other costs (please detail)** |  |
| **3. Other costs (please detail)** |  |
| **TOTAL**  |  |

**Discounts, rebates and reductions**

Please detail below any discounts, rebates and other reductions you are prepared to offer and the basis of those incentives

|  |  |
| --- | --- |
| **DESCRIPTION** | **AMOUNT**£ |
|  |  |
|  |  |
|  |  |
| **TOTAL**  |  |

**Total Overall Cost**

Please detail the total fixed cost for the project

|  |  |
| --- | --- |
| **ITEM** | **TOTAL AMOUNT**£ |
| **Staff Costs** |  |
| **Other Costs** |  |
| **Discounts/reductions** |  |
| **TOTAL Overall Cost** |  |

The following limits will be applicable to all claims for travel and subsistence under this contract:

1. Travel by rail: standard class should be used at all times
2. Travel by car: 45 pence/mile

Hotel bookings should be made through the Environment Agency’s corporate travel contract. Details of this contract are available from the Corporate Contracting Team.

When making reservations you should state that you are a contractor working on Environment Agency business.

Hotel charges must not exceed a maximum limit per night bed and breakfast (VAT included) of: £140 in London; £100 in Bristol; £90 in Warrington; £85 in Reading; £75 in Aberdeen, Birmingham, Belfast, Cardiff, Coventry, Edinburgh, Glasgow, Harlow, Leeds, Manchester, Middlesbrough, Newcastle, Oxford, Portsmouth, Sheffield and York; and £70 in all other destinations. Please note that these hotel ceiling rates are subject to change throughout the life of the contract.

Expenditure on dinner during an overnight stay must not exceed a maximum limit of £25, including a drink.

Receipts for all rail travel, hotel and food expenses will be required as proof of expenditure and will be reimbursed at cost. No profit or additional cost shall be applied by the contractor to such personal expenses.

**APPENDIX B - PRIOR RIGHTS SCHEDULE**

Details of Prior Rights held by the Parties (To be updated as Rights are introduced during the period of the Contract)

Prior Rights owned or lawfully used by a Party, whether under licence or otherwise, which it introduces to the Project for the purposes of fulfilling its obligations under the Contract

Held by the Environment Agency

|  |  |  |
| --- | --- | --- |
| **Name and description of Prior Rights** | **Extent of proposed use in the Project**  | **Proprietary owner of the Prior Rights** |
|  |  |  |
|  |  |  |
|  |  |  |

Held by the Contractor

|  |  |  |
| --- | --- | --- |
| **Name and description of Prior Rights** | **Extent of proposed use in the Project**  | **Proprietary owner of the Prior Rights** |
|  |  |  |
|  |  |  |
|  |  |  |

**Explanation of Contractor's Prior Rights**
All Intellectual Property Rights owned by or lawfully used by the Contractor, whether under licence or otherwise before the date of this Contract. It can also mean any invention and know how or other intellectual property (whether or not patentable) owned by one of the parties prior to the commencement of the Project, or devised or discovered by one of them only in the course of other projects during the Project period and not arising directly from the Project.

**APPENDIX C – ACCEPTANCE OF TERMS AND CONDITIONS**

I/We accept in full the terms and conditions named in Section 2 and appended to this Request for Quote document.

Company \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name

Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Print Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conditions of Contract - Research & Development**

**Ref: SC200006**

**Title: Integrity of decommissioned oil & gas wells: Scoping source-pathway-receptor processes for analysis, prediction and monitoring of pollutant containment**

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1. **DEFINITIONS AND INTERPRETATION**
	1. In the Contract, unless the context otherwise requires the following words and expressions shall have the following meanings:
		1. Agency

Environment Agency, its successors and assigns.

* + 1. Agency’s Prior Rights

All Intellectual Property Rights owned by, or lawfully used by the Agency, whether under licence or otherwise, before the date of this Contract.

* + 1. Appendix

The Appendix to these Conditions.

* + 1. Contractor

The person, firm, company or body that undertakes to provide the services to the Agency as set out in the Appendix.

* + 1. Contractor’s Prior Rights

All Intellectual Property Rights owned by or lawfully used by the Contractor, whether under licence or otherwise before the date of this Contract.

* + 1. Contract

These Conditions including the Appendix, any Special Conditions, the Specification, Pricing Schedule, Contractor’s tender, acceptance letter and any relevant documents agreeing modifications exchanged before the Contract is awarded, and any subsequent amendments or variations agreed in writing.

* + 1. Contract Period

The time period stated in the Appendix, or otherwise in the Contract, for the performance of the Services.

* + 1. Contractor Personnel

means all directors, officers, employees, agents, consultants and contractors of the Contractor and/or of any sub-contractor engaged in the performance of its obligations under this Contract

* + 1. Contracting Authority

Means any contracting authorities (other than the Environment Agency) as defined in regulation 2 of the Public Contract Regulations 2015 (SI 2015/102) (as amended).

* + 1. Contract Price

The price (exclusive of any VAT) set out in the Contract for which the Contractor has agreed to provide the services.

* + 1. Contract Supervisor

Any duly authorised representative of the Agency, notified in writing to the Contractor for all purposes connected with the Contract. Any notice or other written communication given by or to the Contract Supervisor, shall be taken as given by or made to the Agency.

* + 1. Data Protection Legislation

means: (i) the General Data Protection Regulation (Regulation (EU) 2016/679) or GDPR, the Law Enforcement Directive (Directive (EU) 2016/680) ("LED") and any applicable national implementing Laws as amended from time to time (ii) the Data Protection Act 1998 ("DPA 1998") and/or the Data Protection Act 2018 ("DPA 2018") to the extent that it relates to processing of personal data and privacy; (iii) all applicable Law about the processing of personal data and privacy

* + 1. Data Protection Schedule

The Schedule attached to this Contract describing how the Parties will comply with the Data Protection Legislation.

* + 1. Law

means any law, subordinate legislation within the meaning of Section 21(1) of the Interpretation Act 1978, bye-law, enforceable right within the meaning of Section 2 of the European Communities Act 1972, regulation, order, regulatory policy, mandatory guidance or code of practice, judgment of a relevant court of law, or directives or requirements with which the Contractor is bound to comply

* + 1. Notice

Any written instruction or notice given to the Contractor by the Contract Supervisor, delivered by:

1. fax, or hand delivery to the Contractor’s registered office or other address notified by the Contractor to the Agency for the purposes of the Contract and be deemed to have been served at the date and time of delivery; or
2. first class post to the Contractor’s registered office. Such notice shall be deemed to have been served 48 hours after posting.
	* 1. Intellectual Property Rights

All Intellectual Property Rights including without limitation, patents, patent applications, design rights, registered designs, utility models, trade and service marks and applications for same, copyright, know- how, rights in semi-conductor chip topography, and in each case whether protectable at law or not, and if protectable, whether an application has been made for such protection or not, and all similar industrial, commercial, monopoly or other intellectual property rights whether present or future, vested or contingent wherever protected.

* + 1. Results

All things produced in performing the Services including maps, plans, photographs, drawings, tapes, statistical data, experimental results, field data, analysis of results, published and unpublished results and reports, inventions, computer programmes and user documentation.

* + 1. Resulting Rights

All Intellectual Property Rights in the Results that are originated, conceived, written or made by the Contractor, whether alone or with others in the performance of the Services or otherwise resulting from the Contract.

* + 1. Services

All Services detailed in the Specification including any additions or substitutions as may be requested by the Contract Supervisor.

* + 1. PCR

Means the Public Contract Regulations 2015 (SI 2015/102) as amended.

* 1. Except as set out above and in the Data Protection Schedule, the Contract shall be interpreted in accordance with the Interpretation Act 1978.
	2. All headings in these Conditions are for ease of reference only, and shall not affect the construction of the Contract.
	3. Any reference in these Conditions to a statutory requirement this will include all subsequent modifications.
	4. All undefined words and expressions are to be given their normal English meaning within the context of this Contract. Any dispute as to the interpretation of such undefined words and expressions shall be settled by reference to the definition in the Shorter Oxford English Dictionary.
1. **PRECEDENCE**

To the extent that the following documents form the Contract, in the case of conflict of content, they shall have the following order of precedence.

* + - Conditions of Contract including Appendix, Data Protection Schedule and any Special Conditions
		- Specification
		- Pricing Schedule
		- Drawings, maps or other diagrams.
1. **CONTRACT SUPERVISOR**

The Contractor shall strictly comply with any instruction given by the Contract Supervisor concerning or about the Contract provided such instructions are reasonable and consistent with the nature, scope and value of the Contract. All such instructions shall be in writing. The Contractor is not obliged to comply with any verbal instruction from the Contract Supervisor, that is not confirmed in writing within seven working days.

1. **SERVICES**
	1. The Contractor shall provide all staff, equipment, materials and any other requirements necessary for the performance of the Contract using reasonable skill, care and diligence, and to the reasonable satisfaction of the Contract Supervisor.
	2. Where the Agency has indicated in writing, at or before the date of the Contract, that there will be a need to retain certain persons crucial to the successful provision of the Services, such persons (“Key Personnel”) shall be identified from within the Contractor’s business or staff and agreed in writing, and a list made of such persons (“the Key Personnel List”).
	3. The Contractor shall (subject to Condition 4.5) make Key Personnel available for the whole of the Contract Period, for the purposes of providing the Services.
	4. Where the Contract Supervisor gives Notice that Key Personnel are associated with the provision of specific services, such services shall only be provided by such persons.
	5. No changes of any kind shall be made to the Key Personnel List, without the prior written agreement of the Contract Supervisor.
	6. The Contractor shall only employ in the execution and superintendence of the Contract, persons who are suitable, and appropriately skilled and experienced. The Contract Supervisor shall be at liberty to object to, and require the Contractor to remove any person employed in or about the Contract who is unsuitable, misconducts himself, is incompetent or negligent in the performance of his duties, or persists in conduct which could endanger the health or safety of others. Such persons shall not be employed again on the Contract without the express permission of the Contract Supervisor.
	7. The Contractor shall provide the Agency with such progress reports at such intervals and in such form as is detailed in the Specification or otherwise as reasonably required by the Contract Supervisor.
	8. The Contractor shall notify the Contract Supervisor immediately if any factors occur which give the Contractor reason to believe that the Contract could be completed more effectively or expeditiously by changing the programme or method of working in the Specification.
	9. The Contractor shall not carry out any survey for the Agency (whether or not such survey forms part of the Services) which includes any interviews or the circulation of questionnaires or similar documents without the agreement of the Agency to the form and content of such interviews, questionnaires or other documents.
	10. The Contractor shall promptly notify the Contract Supervisor, in writing of any situation, or event arising from circumstances beyond his control and which it could not have reasonably foreseen which makes it difficult for the Contractor to carry out in whole or in part the Contract in accordance with the Specification. On receipt of such notification, any revision to the Condition 6 (Contract Period) in accordance with Condition 10 (Variations) and/or Condition 11 (Extensions of Time) shall be considered by the Contract Supervisor on its merits, and the Contractor notified in writing of the decision.
2. **ASSIGNMENT**
	1. The Contractor shall not assign, transfer or sub-contract the Contract, or any part of it, without the prior written permission of Contract Supervisor.
	2. Any assignment, transfer or sub-contract entered into, shall not relieve the Contractor of any of its obligations or duties under the Contract.
	3. Nothing in this Contract confers or purports to confer on any third party any benefit or any right to enforce any term of the Contract
3. **CONTRACT PERIOD**

The Contractor shall perform the Services within the time stated in the Appendix [DRAFTING NOTE – CHECK APPENDIX], subject to such amendments arising from Condition 10 (Variations), and/or Condition 11 (Extensions of Time.).

1. **PROPERTY**
	1. All property issued by the Agency to the Contractor in connection with the Contract shall remain the property of the Agency, and shall be used in the execution of the Contract, and for no other purpose whatsoever without the prior approval of the Contract Supervisor.
	2. The Contractor shall keep all property issued by the Agency in safe custody and good condition, set aside and clearly marked as the property of the Agency.
	3. On expiry, or earlier termination of the Contract, the Contractor shall, if so required, either surrender such property to the Agency, or otherwise dispose of it, as instructed by the Contract Supervisor.
2. **CONFIDENTIAL INFORMATION**
	1. Confidential Information shall comprise any information disclosed to, or made available to the Contractor and its agents and staff in connection with the Contract and the provision of the Services. This will include, but not be limited to the Agency’s procedures, the Contract, the Results, any Intellectual Property of the Agency, or any other information which could reasonably be regarded as confidential.
	2. The Contractor shall take all necessary precautions to ensure that all Confidential Information as in Condition 8.1:
		1. Is given only to the minimum number of staff and then only to the extent necessary for each member of staff’s activities in the provision of the Services;
		2. Is treated as confidential and not disclosed, without the prior approval of the Contract Supervisor, to any other person.
	3. Where required by the Contract Supervisor, the Contractor will ensure that its staff sign a confidentiality undertaking before commencing work on the provision of the Services, and provide copies to the Contract Supervisor.
	4. The Agency’s remedies for breaches of Conditions 8.1, 8.2, and 8.3 shall not be limited to damages.
	5. Nothing in this Condition shall prevent the Agency from disclosing such information relating to the outcome of the Contract procurement process as may be required to be published in the Supplement to the Official Journal of the European Communities in accordance with E.C. Directives, or elsewhere in accordance with requirements of United Kingdom law on the disclosure of information.
3. **SECURITY**

The Contractor shall be responsible for the security of all goods and equipment (i) belonging to the Agency and used by the Contractor in the provision of the Services, and (ii) belonging to the Contractor, or Contractor’s staff, or sub-contractors whilst on Agency premises. This Condition shall not prejudice the Agency’s rights under Condition 15.

1. **VARIATIONS**
	1. The Contract Supervisor may vary the Contract by adding to, deleting or otherwise modifying the Services to be supplied, by written order to the Contractor provided such variations are reasonable and consistent with the nature, scope and value of the Contract.
	2. The value of any such variation, other than any variation arising out of Condition 10.3, shall be determined by reference to the rates contained in the Pricing Schedule. Where the Services so ordered are not covered in the Pricing Schedule, they shall be valued at a fair and reasonable rate agreed between the Contract Supervisor and the Contractor.
	3. Where a variation is the result of some default or breach of the Contract by the Contractor, or for some other cause for which it is solely responsible, any additional cost attributable to the variation shall be borne by the Contractor.
	4. The Contractor may also propose a variation to the Services, but no such variation shall take effect unless agreed and confirmed in writing by the Contract Supervisor.
	5. No variation shall have the effect of invalidating the Contract, if that variation is reasonably consistent with the nature, scope and value of the Contract. The Contractor may also propose a variation to the Goods to be supplied but no such variation shall take effect unless agreed and confirmed in writing by the Contract Supervisor.
	6. No variation shall have the effect of invalidating the Contract, or placing the Contract at large, if that variation is reasonably consistent with the nature, scope and value of the Contract.
	7. The Agency may vary the Contract to comply with a change in English Law. Such a change will be effected by the Contract Supervisor notifying the Contractor in writing.
	8. The Agency may assign, novate or otherwise dispose of its rights and obligations under the Contract or any part thereof to:
		1. any Contracting Authority; or
		2. any other body established by the Crown or under statute in order substantially to perform any of the functions that had previously been performed by the Agency; or
		3. any private sector body which substantially performs the functions of the Agency, provided that any such assignment, novation or other disposal shall not increase the burden of the Contractor's obligations under the Contract.
	9. Any change in the legal status of the Agency such that it ceases to be a Contracting Authority shall not affect the validity of the Contract. In such circumstances the Contract shall bind and inure to the benefit of any successor body to the Agency.
2. **EXTENSIONS OF TIME**
	1. Should the performance of the Contract be delayed by any cause beyond the reasonable control of the Contractor, and provided that the Contractor shall first have given the Contract Supervisor written notice within five working days after becoming aware that such delay was likely to occur, then, the Contract Supervisor, if satisfied that this Condition applies:
		1. in the case of any delay of which the Agency is not the cause, may grant the Contractor such extension of time as in his opinion, is reasonable, having regard, without limitation, to any other delays or extensions of time that may have occurred or been granted under the Contract. The Contract Price shall not increase as a result of such an extension of time.
		2. in the case of any delay of which the Agency is the cause, shall grant the Contractor a reasonable extension of time to take account of the delay.
	2. No extension of time shall be granted where in the opinion of the Agency, the Contractor has failed to use reasonable endeavours to avoid or reduce the cause and/or effects of the delay.
	3. Any extension of time granted under this Condition shall not affect the Agency’s rights to terminate or determine the Contract under Conditions 13 and 14 respectively.
3. **DEFAULT**
	1. The Contractor shall be in default if it:
		1. Fails to perform the Contract with due skill, care, diligence and timeliness; or
		2. Refuses or neglects to comply with any reasonable written instruction given by the Contract Supervisor; or
		3. Is otherwise in breach of Contract.
	2. Where in the opinion of the Contract Supervisor, the Contractor is in default, the Contract Supervisor may serve a Notice, giving at least 5 working days in which to remedy the default.
	3. If the Contractor fails to comply with such a Notice, the Contract Supervisor may without prejudice to any other rights or remedies under the Contract, take over for such a period as is necessary the performance of the relevant part of the Contract, and make other arrangements for its completion. Any extra costs arising from this action, will be paid by the Contractor or deducted from any monies owing to it.
4. **TERMINATION**
	1. The Agency may immediately, without any liability on its part and without prejudice to any of its other rights and remedies under the Contract, terminate all, or any part of the Contract by Notice to the Contractor, or the Contractor’s receiver, or the Contractor’s liquidator or to any other person in whom the Contract may become vested, if the Contractor:
		1. fails in the opinion of the Contract Supervisor to comply with (or take reasonable steps to comply with) a Notice under Condition 12.2; or
		2. becomes bankrupt or insolvent, or has a receiving order made against it, or makes an arrangement with its creditors, or (being a corporation) commences to be wound up, not being a voluntary winding up for the purpose of reconstruction or amalgamation, or has a receiver, administrator, or administrative receiver appointed by a Court.

'Termination under the Procurement PCR’

* 1. The Agency may terminate the Contract on written Notice to the Contractor if:
		1. the contract has been subject to a substantial modification which requires a new procurement procedure pursuant to regulation 72(9) of the PCR;
		2. the Contractor was, at the time the Contract was awarded, in one of the situations specified in regulation 57(1) of the PCR, including as a result of the application of regulation 57(2), and should therefore have been excluded from the procurement procedure which resulted in its award of the Contract; or
		3. The Contract should not have been awarded to the Contractor in view of a serious infringement of the obligations under the Treaties and the PCR that has been declared by the Court of Justice of the European Union in a procedure under Article 258 of the TFEU.
1. **DETERMINATION**
	1. Without prejudice to any other rights or remedies under the Contract, the Agency reserves the right to determine the Contract at any time by giving not less than one month’s Notice, (or such other time period as may be appropriate).
	2. The Agency shall pay the Contractor such amounts as may be necessary to cover his reasonable costs and outstanding and unavoidable commitments necessarily and solely incurred in properly performing the Contract prior to determination.
	3. The Agency will not pay for any costs or commitments that the Contractor is able to mitigate and shall only pay those costs that the Agency has validated to its satisfaction. The Agency’s total liability under this clause shall not in any circumstances exceed the Contract Price that would have been payable for the Services if the Contract had not been determined.
2. **INDEMNITY**
	1. Subject always to Condition 15.2 without prejudice to the Agency’s remedies for breach of Contract, the Contractor shall fully indemnify the Agency and its staff against any liability, loss, costs, expenses, claims or proceedings in respect of:
		1. Death or injury to any person, and/or
		2. Loss or damage to any property, excluding indirect and consequential loss, and/or
		3. Infringement of third party Intellectual Property Rights

which might arise as a consequence of the actions, omissions or negligence of the Contractor, its staff or agents in the execution of the Contract.

* 1. Nothing in this Condition 15 shall limit or exclude any liability of the Agency for personal injury or death arising from its negligence.
1. **LIMIT OF CONTRACTOR’S LIABILITY**
	1. The limit of the Contractor’s liability for each and every claim by the Agency, other than for death or personal injury, whether by way of indemnity or by reason of breach of Contract, or statutory duty, or by reason of any tort shall be-
		1. The sum stated in the Appendix [*DRAFTING NOTE – INSERT SUM and consider personal data risk*];
		2. If no sum is stated in the Appendix, ten times the Contract Price, or five million pounds whichever is the greater.
2. **INSURANCE**
	1. The Contractor shall insure, and maintain insurance against the liabilities under Condition 15 (Indemnity), in the manner, and to the values listed in the Appendix to these Conditions. [DRAFTING NOTE – CHECK SUM and consider personal data risk]. If no sum is stated, the value insured shall be £5m, (five million pounds).
	2. If required by the Agency, nominated insurances shall be in the joint names of the Contractor and the Agency.
	3. The Contractor shall, upon request, produce to Contract Supervisor documentary evidence that the insurances required are fully paid up and valid for the duration of the Contract.
3. **PREVENTION OF FRAUD AND CORRUPTION**
	1. The Contractor shall not offer, give, or agree to give anything, to any person an inducement or reward for doing, refraining from doing, or for having done or refrained from doing, any act in relation to the obtaining or execution of the Contract or for showing or refraining from showing favour or disfavour to any person in relation to the Contract.
	2. The Contractor shall take all reasonable steps, in accordance with good industry practice, to prevent fraud by the Contractor’s staff and the Contractor (including its shareholders, members and directors) in connection with the Contract and shall notify the Agency immediately if it has reason to suspect that any fraud has occurred or is occurring or is likely to occur.
	3. If the Contractor or the Contractor’s staff engages in conduct prohibited by this clause 18 or commits fraud in relation to the Contract or any other contract with the Crown (including the Agency) the Agency may:
		1. terminate the Contract and recover from the Contractor the amount of any loss suffered by the Agency resulting from the termination, including the cost reasonably incurred by the Agency of making other arrangements for the supply of the Goods and any additional expenditure incurred by the Agency throughout the remainder of the Contract; or
		2. recover in full from the Contractor any other loss sustained by the Agency in consequence of any breach of this clause.
	4. The Contractor shall not, directly or indirectly through intermediaries commit any offence under the Bribery Act 2010 (as amended), in any of its dealings with the Agency.
4. **MONITORING AND AUDIT**
	1. The Contract Supervisor may inspect and examine the Services being carried out on the Agency’s premises or elsewhere at any reasonable time. Where the Services are being performed on other than the Agency’s premises, reasonable notice to inspect shall be given to the Contractor. The Contractor shall give all such facilities as the Contract Supervisor may reasonably require for such inspection and examination.
	2. The Contractor shall keep and maintain for six years following termination of the Contract, records of all expenses and expenditure which have been or are reimbursable by the Agency, and of the hours worked and costs incurred by the Contractor and its sub-contractors in the performance of the Contract, and the Contractor shall on request afford the Agency such access to those records as may be required to carry out audit checks or for any other legitimate reason.
5. **CONTRACT PRICE**
	1. The Contract Price will be paid by the Agency to the Contractor, as amended by any variations ordered under Condition 10 (Variations).
	2. Subject to receipt of a valid VAT invoice addressed to the Agency, in addition to the Contract Price, the Agency will pay to the Contractor such VAT (if any) as may properly be chargeable at rates ruling at the time of invoice.
6. **INVOICING AND PAYMENT**
	1. Invoices shall only be submitted for work already satisfactorily completed, and accompanied by such information as the Contract Supervisor may reasonably require to verify the Contractor’s entitlement to payment. Such invoices will be paid within 30 days of receipt by the Agency.
	2. If any sum shall become payable under the Contract by the Contractor to the Agency, whether by deduction from the Contract Price, or otherwise, it will be deducted by the Contractor from the Contract Price and such deduction reflected in the next available invoice.
	3. If the Contractor enters into a sub-contract with a supplier for the purpose of performing its obligations under the Contract, it shall ensure that a provision is included in the sub-contract which requires payment to be made of all sums due from it to the sub-contractor within 30 days from the receipt of a valid invoice.
7. **INTELLECTUAL PROPERTY RIGHTS**
	1. All Prior Rights used in connection with the Services shall remain the property of the party introducing them. Details of each party’s Prior Rights are set out in the Prior Rights Schedule to this contract.
	2. All Results shall be the property of the Agency.
	3. The Resulting Rights in any Results, and any interim results shall, from the time they arise, be the property of the Agency and the Agency shall be free, should it so wish, to apply at its own expense for patent or other protection in respect of the Results or any interim results. The Agency’s intention to apply for such patent or other protection shall be notified to the Contractor. Such applications for patents or other registered intellectual property rights shall be filed in the name of the Agency.
	4. Unless otherwise agreed in writing between the Contractor and the Agency, the Contractor hereby:
		1. assigns to the Agency all Resulting Rights
		2. grants the Agency a non-exclusive, non-transferable (save for the purposes of sub-licensing, reorganisation or transfer to a successor body, for the purposes of all the successor body's normal business use), irrevocable, royalty free, perpetual licence to the Agency in respect of all the Contractor's Prior Rights necessary in order for the Agency to use or exploit the Resulting Rights.
	5. The Contractor undertakes to the Agency not to use, exploit or deal with any of the Agency's Prior Rights, other than in the performance of the Contract unless the Contractor has first obtained a written licence from the Agency, in specific terms to do so.
	6. The Agency undertakes to the Contractor not to use or exploit the Contractor's Prior Rights, save as provided in Condition 22.3.
	7. The Contractor warrants to the Agency that the performance of the Services, the Contractor’s Prior Rights and the Results shall not in any way infringe any Intellectual Property Rights of any third party.
	8. If the Contractor is prevented from carrying out his obligations under the Contract due to any infringement or alleged infringement of any Intellectual Property Rights, the Agency may without prejudice to any other rights and remedies under the Contract, exercise the powers and remedies available to it under Conditions 13 and 14, Termination and Determination respectively.
	9. The Contractor shall not be liable if such infringement arises from the use of any design, technique or method of working provided by or specified by the Agency.
	10. The Contractor waives in favour of the Agency its rights to object to derogatory treatment of the Results and the Contractor also agrees that it will not assert or seek to enforce against the Agency and/or any other person, firm or company any of its moral rights as defined in the Copyright Designs and Patents Act 1988 without the prior agreement of the Agency.
	11. The Contractor shall not be liable for any consequential losses, damage or injuries arising from third party misuse of the Results, of which the Contractor is not aware.
8. **WARRANTIES**

The Contractor warrants that the Services supplied by him will be discharged with reasonable skill, care and diligence.

1. **PUBLICATION OF RESULTS**
	1. Without prejudice to the generality of Condition 22, the Contractor shall not, without the prior written agreement of Contract Supervisor, use, disclose or permit any person or organisation to use or disclose the Results or Confidential Information for any thesis, degree, research or other educational purpose. Any such use or disclosure may only be made subject to such terms as the Agency shall require.
	2. The Contractor shall not publish any other information related to the Contract without agreeing the text to be published, and the publication or transmission service in or on which it is to appear with Contract Supervisor. Such agreement shall not be unreasonably withheld or delayed.
	3. Any agreed publication shall contain an acknowledgement that the Services were carried out under contract to the Agency, and is published with the Agency's agreement.
	4. Any publication by the Contractor shall be entirely at the Contractor's own cost and the Contractor shall, within ten days of publication, supply the Agency free of charge with a reasonable number of copies of any publication.
2. **STATUTORY REQUIREMENTS**

The Contractor shall at all times comply with (i) all relevant legislation and all applicable codes of practice and other similar codes or recommendations and (ii) the Health and Safety at Work etc. Act 1974 (as amended) and any other acts, orders, regulations and codes of practice relating to health and safety, which may apply to employees and other persons working directly or indirectly in the provision of the Services.

1. **ENVIRONMENT, SUSTAINABILITY AND DIVERSITY**
	1. The Contractor in the performance of this Contract should adopt a sound proactive environmental approach, designed to minimise harm to the environment, to conserve energy, water, wood, paper and other resources, reduce waste and phase out the use of single-use plastic, ozone depleting substances and minimise the release of greenhouse gases, volatile organic compounds and other substances damaging to health and/or the environment, and be able to provide proof of so doing to the Agency on demand.
	2. The Agency is committed to ensuring that workers employed within its supply chains are treated fairly, humanely and equitably. The Agency expects the Contractor to share this commitment and to understand any areas of risk associated with this and work to ensure they are meeting International Labour Standards. The Contractor ensures that it and its sub-contractors and its supply chain:
		1. comply with the provisions of the Modern Slavery Act 2015;
		2. pay staff fair wages (and pays its staff in the UK not less than the Foundation Living Wage Rate ); and
		3. implement fair shift arrangements, providing sufficient gaps between shifts, adequate rest breaks and reasonable shift length, and other best practices for staff welfare and performance.
	3. The Contractor should support the Agency to achieve its Public Sector Equality Duty by complying with the Agency's policies (as amended from time to time) on Equality, Diversity and Inclusion (EDI). This includes ensuring that the Contractor (and their sub-contractors) in the delivery of its obligations under this Contract:
		1. eliminates discrimination, harassment, victimisation and any other conduct that is prohibited by or under the Equality Act 2010;
		2. advances equality of opportunity between people who share a protected characteristic and those who do not; and
		3. fosters good relations between people who share a protected characteristic and those who do not.
2. **LAW**

This Contract shall be governed and construed in accordance with the Law, and subject to the exclusive jurisdiction of the courts of England.

1. **WAIVER**
	1. No delay, neglect or forbearance by the Agency in enforcing any provision of the Contract shall be deemed to be a waiver, or in any other way prejudice the rights of the Agency under the Contract.
	2. No waiver by the Agency shall be effective unless made in writing.
	3. No waiver by the Agency of a breach of Contract shall constitute a waiver of any subsequent breach of Contract.
2. **ENFORCEABILITY AND SURVIVORSHIP**
	1. If any part of the Contract is found by a court of competent jurisdiction or other competent authority to be invalid or legally unenforceable, then that part will be severed from the remainder of the Contract which will continue to be valid and enforceable to the fullest extent permitted by law.
	2. The following clauses shall survive termination of the Contract, howsoever caused: 8, 13, 14, 15, 22, 23, 24, 25, 27, 29, 30, 31, 32 and 33.
3. **DISPUTE RESOLUTION**
	1. All disputes under or in connection with this Contract shall be referred first to negotiators nominated at a suitable and appropriate working level by the Agency and the Contractor.
	2. If the parties’ negotiators are unable to resolve the dispute within a period of forty five days from its being referred to them, the dispute shall be referred at the instance of either party to the parties respective senior managers or directors (supported as necessary by their advisors)
	3. If the parties respective senior managers or directors are unable to resolve the dispute within forty five days, the dispute shall be referred to the Centre for Dispute Resolution who shall appoint a mediator and the parties shall then submit to the mediators supervision of the resolution of the dispute.
	4. Recourse to this dispute resolution procedure shall be binding on the parties as to submission to the medium but not as to its outcome. Accordingly all negotiations connected with the dispute shall be conducted in strict confidence and without prejudice to the rights of the parties in any future legal proceedings. Except for any party’s right to seek interlocutory relief in the courts, no party may commence other legal proceedings under the jurisdiction of the courts, or any other form of arbitration until forty five days after the appointment of the mediator.
	5. If, with the assistance of the mediator, the parties reach a settlement, such settlement shall be put in writing and, once signed by a duly authorised representative of each of the parties, shall remain binding on the parties.
	6. The parties shall bear their own legal costs of this dispute resolution procedure, but the costs and expenses of mediation shall be borne by the parties equally.
	7. Any of the time limits in Condition 30 may be extended by mutual agreement between the parties. Such agreed extension shall not prejudice the right of either party to proceed to the next stage of resolution.
4. **GENERAL**
	1. Neither party to the Contract will be liable to the other for any delay in performing or failing to perform its obligations under the Contract because of any cause outside its reasonable control. Such delay or failure will not constitute a breach of the Contract and the time for performance of the affected obligation will be extended by a reasonable period.
	2. The Contract contains the whole agreement between the parties and supersedes all previous communications, representations and arrangements, written or oral. It is accepted that the Contract has not been entered into on the basis of any representations that are not expressly contained in the Contract.
5. **FREEDOM OF INFORMATION ACT**
	1. The Agency is committed to open government and to meeting its responsibilities under the Freedom of Information Act 2000 (as amended) (‘Act’) and the Environmental Information Regulations 2004 (as amended) (Regulations’).
	2. The Contractor agrees that:
		1. All information submitted to the Agency may need to be disclosed by the Agency in response to a request under the Act or the Regulations; and
		2. The Agency may include information submitted (in whole or in part) in the publication scheme which it maintains under the Act or publish the Contract, including from time to time agreed changes to the Contract, to the public.
	3. If the Contractor considers that any of the information included in its tender, or that it has submitted to the Agency or that is otherwise contained in the Contract, is commercially sensitive, it shall identify and explain (in broad terms) what harm may result from disclosure if a request is received, and the time period applicable to that sensitivity. The Contractor acknowledges that if it has indicated that information is commercially sensitive, such information may still be required to be disclosed by the Agency under the Act or the Regulations. The receipt of any material stated to be or marked ‘confidential’ or equivalent by the Agency shall not be deemed to infer that the Agency agrees any duty of confidentiality by virtue of that marking.
6. **DATA PROTECTION**
	1. In the event that the Contract requires data to be processed within the meaning of the Data Protection Legislation the Data Protection Schedule shall be completed by the Parties and provisions and definitions therein shall apply and bind the Parties as part of this Contract.

Appendix to Conditions Research and Development

Ref: «SC200006»

Title: « Integrity of decommissioned onshore oil & gas wells: Scoping source-pathway-receptor processes for analysis, prediction and monitoring of pollutant containment»

 **Condition**

**1 Contract Supervisor 3**

 Roger Timmis

Address:-

Environment Agency

c/o Lancaster Environment Centre

Lancaster University

LANCASTER

LA1 4YQ

1. **Contractor**

«Company\_Name»

Address:

 «SUPPLIER\_ADDRESS»

 «TOWN\_CITY»

 «COUNTY»

 «ZIP»

**3 Completion**  **6**

Contract Start Date «14 January 2021»

Contract End Date «31 March 2021»

**4 Delivery** **11**

Address:-

*As above*

**5 Insurance 17**

Professional Indemnity Min. Cover £1million

Third Party Minimum Cover £1million

Public Liability Min. Cover £1million

**6 Limit on Liability** **16**

Limit on Contractors Liability £1million