



European Union European Regional Development Fund Killing Karley K



Eden Geothermal Limited The Eden Project Bodelva Par PL24 2SG

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Date: 7th September 2020

INVITATION TO TENDER

Dear Sir/Madam

Project Eden Geothermal Project

Tender NameProvision of integrated waste management services during deep
geothermal drilling and well-testingTender referenceEGL-ITT-CO49

You are invited to submit a competitive tender for provision of integrated waste management services for a project co-funded by the European Regional Development Fund.

Please submit your proposal in full no later than:

Wednesday 14th October 2020 at 16:00 hours

Except under exceptional circumstances, no extension of time and date by which the tender must be submitted will be granted. Late submissions will not be accepted.

Any query in connection with this tender or the invitation to tender shall be submitted in writing (by email) to <u>tenders@edengeothermal.com</u> by:

Monday 28th September 2020 at 12.00 noon

We look forward to receiving your submission.

Yours faithfully

Augusta Grand Executive Director







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Invitation to Tender:

Provision of integrated waste management services during deep geothermal drilling and well-testing

| Project | Eden Geothermal Project |
|------------------------|--|
| Tender reference | EGL-ITT-CO49 |
| Revision | Ver 1.0 |
| Release Date | 7 th September 2020 |
| Issuer | Eden Geothermal Limited ("EGL") |
| Supplier Response Date | 14 th October 2020 at 16.00 |







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PART A: INSTRUCTIONS TO TENDERERS

1 Instructions for Completion

1.1 Submission Details

Eden Geothermal Limited is issuing this Invitation to Tender (ITT) for waste management services during deep geothermal drilling and well-testing at the Eden Project in Cornwall, PL24 2SG, UK.

The Applicant will be required to submit a written proposal as part of the response, in the form set out. Applicants must submit their tenders as <u>two separate sets of documents</u>, to ensure separation of technical and commercial bids.

- Document set one: Company Information (Schedules 1a 1j), Declaration (Schedule 2), and Technical Submission (Schedule 3); sent separately from
- Document set two: Commercial Submission (Schedule 4).

The Applicant should submit both an electronic AND a hard copy of these documents:

- A signed electronic copy of the two sets of documents should be sent by email, quoting the contract title EGL-ITT-C049. Electronic submisisons should include any relevant appendices and be in PDF or read-only format. Electronic tenders should be submitted to tenders@edengeothermal.com and must be received into the mailbox by the deadline of 14th October 2020 at 16.00 hours. EGL recommends a maximum attachment file size of 20MB; tenderers may send their submission as several emails provided Schedule 4/Commercial Submission is sent separately from other parts of the tender.
- A signed hard copy of the two sets of documents, inclusive of any relevant appendices, must be posted/sent by 14th October 2020 at 16:00 hours. EGL will require proof of posting/courier in the form of postmark or sender's receipt to verify submission by the deadline stated. Envelopes and packages should be marked with the contract reference EGL-ITT-C049 and must bear no reference to the tenderer by name; franking machines which automatically print the company's name should not be used. Hard copy tenders should be submitted to:

The Authorised Officer, Eden Geothermal Limited, Foundation Building, Eden Project, Bodelva, Par, Cornwall PL24 2SG, UK.

Emailed tenders will be received up to the time and date stated. Hard copy tenders will be inspected to ensure that they have been sent by the date and time stated. Any tenders received before the due date will be retained unopened until then. It is the responsibility of the tenderer to ensure that their email copy tender is delivered, and their hard copy tender is sent, not later than the appointed time. EGL reserves the right to not consider any tenders submitted after the deadline, in which event late bids will not be accepted. Applicants may request extensions to submission deadlines with a valid reason, which may be accepted at the discretion of the Evaluation Panel of Eden Geothermal Limited. All other Applicants will be notified of any extension that is granted.







Applicants are advised that Eden Geothermal Ltd is not bound to accept the lowest price submitted, and will not reimburse any expense incurred by Applicants during the tendering process.

Any information relating to Eden Geothermal Ltd and supplied by Eden Geothermal Ltd in relation to this project shall be retained by the Applicant in strictest confidence.

1.2 Enquiries and Tender Queries

Please register your interest by emailing the address below, quoting the tender reference number EGL-ITT-C049.

Send all enquiries by email, by the deadline stated at Section 2, quoting the tender reference printed at the front of this document (EGL-ITT-C049) to:

tenders@edengeothermal.com

Bidders shall provide a single point of contact in their organisation. Eden Geothermal Ltd shall not be responsible for contacting the bidder through any route other than the nominated contact. The bidder must therefore undertake to notify Eden Geothermal Ltd of any changes relating to the point of contact.

Applicants are advised that, where Eden Geothermal Ltd considers appropriate, a copy of any such enquiries will be distributed to all Applicants along with the response, although the original Applicant's identity will remain confidential. Applicants will only receive the response if they have registered their interest.

1.3 Format of Tender Submission

Applicants must provide the following:

- 1. Company Information Schedules 1a to 1j inclusive
- 2. Declarations
- Schedule 2
- 3. Technical submission
- Schedule 3
- 4. Commercial submission Schedule 4 (submitted separately)

1.4 Project Description

The Eden Geothermal Project is run by Eden Geothermal Ltd (EGL). The ultimate aim of EGL is to develop a two-well deep geothermal system at an approximate depth of 4,500 metres. This system will produce both direct heat and power, with an anticipated gross electric capacity of around 7 MW_e. The plant could produce enough electricity to supply the Eden Project and around four to five thousand households, as well as heating for the biomes and greenhouses at the Eden Project.

The development phase of ths project is a 4 - 5 year programme, of which the first stage is a majority EU funded 40 month programme (that commenced in April 2019) comprising the preparation of the site and the drilling and testing of the first well. There is a more detailed description of the Eden Geothermal Project in Part B (Section 3).

1.5 Outline of Requirements

The detailed description of EGL's requirements and scope of services to be provided is set out in Part C.







In summary, EGL requires a contractor to provide integrated waste management services for the full range of waste arisings during the drilling and testing of the first deep geothermal well at the Eden Project. The waste stream will include (but is not limited to) non-hazardous extractive wastes (the majority of the waste stream), hazardous wastes, non hazardous welfare waste and other miscellaneous waste such as wood, metal and septic tank contents.

1.6 Validity Period

Tenders must remain valid for acceptance for a period of 90 days from the Tender Return Date.

1.7 Form of Contract

The contract between EGL and the successful bidder will be based on the LOGIC, a copy of which are provided as Appendix D, together with the following parts of this document:

- Part C (Technical Requirements and Specifications)
- Schedules 3 and 4 as submitted by the successful bidder.

1.8 Financial Terms

All prices will be fixed, exclusive of VAT and inclusive of all other taxes and duties.







2 Timetable

This procurement will follow a clear, structured and transparent process at all times, to ensure that all Applicants are treated equally. The key dates for this procurement (timetable) are as follows:

| Process | Date |
|--|---|
| Issue of Tender | 7 th September 2020 |
| Closing date for clarification questions | 28 th September 2020 - 12:00 hours |
| EGL to respond to clarification questions | 5 th October 2020 |
| Tender return date | 14 th October 2020 - 16:00 hrs |
| Award decision communicated to the winning tenderer | 22 nd October 2020 |
| Notify unsuccessful tenderers | 22 nd October 2020 |
| Expected contract award date | 2 nd November 2020 |
| Expected contract start date | February 2021 |
| Expected programme start | February 2021 |
| Expected contract completion date | June 2021 |

Date for the receipt of bids at Eden Geothermal Ltd: 14^{th} October 2020 at 16.00.





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PART B: BACKGROUND TO EDEN GEOTHERMAL

3 Background Information

3.1 Eden Geothermal Project



The Eden Geothermal Project is run by Eden Geothermal Ltd (EGL), an SPV set-up to manage and implement the development of a deep geothermal energy plant at the Eden Project, Cornwall PL24 2SG. Funding is in place and planning permission has been obtained.

The ultimate aim of EGL is to develop a two-well deep geothermal system that will produce both direct heat and power, some of which will provide direct supply to the Eden Project, with the remainder being exported.

This will be achieved by drilling two boreholes - a production and an injection well - to a vertical depth of approximately 4500m and into a known fault into the granite beneath Eden. The temperature at that depth is expected to be in the range of 170 - 190°C. Superheated water brought to surface in the production well will be used to generate electricity and provide heat, and then, being cooled off, will be returned to the fault via the injection well.

With an anticipated gross electric capacity of around 7 MW_{e} and the ability to generate around 90% of the time, the Eden Geothermal Plant could produce enough electricity to supply the Eden Project and around four to five thousand households, as well as heating for the biomes and greenhouses at the Eden Project - and potentially some district or industrial heating.

The project will be completed in two independent project phases. The first well and the associated test programme represent a self-contained project phase (cofinanced by the European Regional Development Fund, Cornwall Council and private







investment) with an emphasis on exploration. This project stage comprises (i) finalisation of design; (ii) site preparation & installation of infrastructure; (iii) drilling the first deep well; (iv) well/fault permeability testing; and (v) heat demonstration over a period of 12 months to satisfy ERDF outputs. This project phase is the focus of this Invitation to Tender for waste management services.



Phase 1 of Eden Geothermal Project

A successful first phase will pave the way for the drilling of a second well and the construction of the combined heat and power plant.

3.2 About Eden Geothermal Ltd

Eden Geothermal Limited is a special purpose vehicle set up to develop the geothermal project at the Eden site. The project combines the famous Eden Project site with EGS Energy Ltd's and BESTEC (UK) Ltd's technical expertise and experience in the geothermal sector.

EGS Energy Ltd is a UK private limited company, incorporated in 2008 and established by Roy Baria and Guy Macpherson Grant to develop deep geothermal energy solutions in the UK. BESTEC (UK) Ltd is a UK private limited company incorporated in June 2012 and established by Jörg Baumgärtner to perform deep geothermal work in the UK in cooperation with BESTEC GmbH, an established specialist company in geothermal project development. Eden Project Limited is a wholly owned subsidiary of the Eden Trust, a registered charity in the UK, and runs the world famous Eden Project in Cornwall.







Eden Geothermal Limited has been allocated funding from the European Regional Development Fund and from Cornwall Council, together with private investment match funding, to undertake the first phase as an Industrial Research Project.

3.3 Eden Geothermal Development Site

The Eden Geothermal site is a presently-unoccupied plot of land adjacent to the North Gate of the Eden Project in Cornwall, with good road access (National Grid Reference (NGR: 204310 055710).

The overall area of the site is approximately $28,000m^2$ (2.8ha). It will include a working area of ~12,000m² at the southern end, to accommodate a large land-based drilling rig. A small wet woodland area in the centre of the site will be retained for ecology purposes.

More detail about the site, including a detailed plan of the proposed site layout during drilling, access details, etc., is provided at Appendix A.









PART C: WASTE ARISINGS AND SCOPE OF SERVICES REQUIRED

4 Waste Arisings and Scope of Services

Eden Geothermal Ltd invites tenders for provision of integrated waste management services during deep drilling and well-testing for Phase 1 of the Eden Geothermal Project.

Detail of the anticipated waste arisings at the site are set out in Section 4.1 below.

EGL's requirements in relation to the management of these wastes (i.e. the scope of this contract) are set out in Section 4.2 below. These should be read in conjunction with Schedule 3.

4.1 Waste Arisings

4.1.1 Classification of Waste Arisings

The wastes arisings that may be expected (based on similar operations elsewhere) are shown below in table 4.1.1. Please note that this list may not be exhaustive.

| Description | EWC Coding | |
|--|------------|--|
| Non-hazardous drilling (extractive) wastes | | |
| Spent drilling mud | 01-05-04 | |
| Drill cuttings and sludge | 01-05-04 | |
| Cement returns | 17-01-01 | |
| Spent spacer fluid | | |
| Hazardous wastes | | |
| Oily or fuel-soaked rags | 15-02-02 | |
| Oil filters | 16-01-07 | |
| Engine oil and containers | 13-02-05 | |
| Hydraulic oil and containers | 13-01-10 | |
| Welfare wastes | | |
| Non-hazardous general (black bag) | 20-03-01 | |
| Recyclables (plastic, glass, cardboard, paper) | 15-01-06 | |
| Other | | |
| Wood | 20-01-38 | |
| Metal | 20-01-40 | |
| Septic | 20-03-04 | |







Drill cuttings will be separated from the drilling mud at the surface as far as reasonably practicable, so that the maximum amount of drilling mud can be reused on site. The overflow from the solids control equipment will be dumped directly into a 250 m³ cuttings pit, where the solids will be allowed to settle. On occasions the cuttings pit may need to be emptied by the contractor during the drilling programme and the empited material taken to an appropriately authorised facility for recycling/recovery/treatment/disposal.

Please see Appendices B and C for more information relating to spent drilling mud, drill cuttings and sludge and cement returns.

Non-extractive wastes will be temporarily securely stored on site, pending collection, for no longer than 3 months.

4.1.2 Anticipated Quantity of Waste Arisings

During the drilling programme, the largest waste stream originates from nonhazardous drilling (extractive) wastes (drilling fluids and cuttings). The exact volume of drill cuttings and muds produced will be largely dependent upon the efficiency of the muds cleaning system used, and is difficult to accurately predict. The total drilled wellbore volume is approximately 570 m³. The estimated volumes of drill arisings are indicated in Table 4.1.2 below

| | | | D | iamete | er | | Vol | | | _ |
|-----------|------------|---------------|-------|--------|-----------------|----------------|-----------------|----------------|--------------|---------------|
| De | | Loueth | (bi | t) | (over drill) | Drill | (over drill) | Weight | Bulk | Vol per |
| Del MD | סנח (m) | Length (m) | (") | (m) | (m) | time (days) | (cu m) | (*) (tonne) | (**) cu m | day (cu m) |
| | | | | | | | | | | |
| 0 | 300 | 300 | 26 | 0.66 | 0.71 | 5 | 118.78 | 195.98 | 356.33 | 71.27 |
| 300 | 1500 | 1200 | 17.5 | 0.44 | 0.47 | 21 | 208.19 | 343.52 | 624.58 | 29.74 |
| 1500 | 4110 | 2610 | 12.25 | 0.31 | 0.32 | 58 | 209.91 | 346.35 | 629.73 | 10.86 |
| 4110 | 5010 | 900 | 8.5 | 0.22 | 0.22 | 30 | 34.21 | 56.45 | 102.64 | 3.42 |
| Total | | 5010 | | | | | 571 | 942 | 1713 | |

Table 4.1.2: Estimated Quantity of Drill Arisings

(*) Assume the specific gravity of broken granite is 1.65 (1,650 kg/m3) - SG of intact granite is ~2.6

(**) Assume a volumetric bulk-up factor of 3

The volume of drilling fluids likely to be lost during the drilling programme is difficult to quantify, but for the purpose of this tender the estimation is:-

| Hole Size | Estimated volume (m ³) | Estimated weight (tonne) |
|-----------|---------------------------------------|-----------------------------|
| 26″ | 50 | 54 |
| 171⁄2" | 100 | 108 |
| 12¼″ | 200 | 216 |
| 81/2″ | 150 | 162 |
| Total | 500 | 540 |







The quantities of other types of operations waste are assumed to be similar to those produced from similar onshore drilling projects.

Welfare wastes will be generated by drilling operations personnel (estimated 30 people on site at any given time) and office personnel (6 on site at any given time).

4.1.3 Contamination

Evidence from other deep wells drilled into the Cornish Granite shows that the wells are sub-hydrostatic an are not found to be over-pressurised.

Waste water-based drilling muds are classified as non-inert non-hazardous waste. Hydrocarbons do not occur in any significant quantity within the Cornish granite. Therefore it is not expected that the drill cuttings will contain hydrocarbon contamination.

Metallic mineralisation may be present within the granite, specifically within mineralised lode or fault structures that are intersected during the drilling. This may result in localised elevated levels of minerals such as arsenic.

The Cornish granite contains elevated levels of radiogenic elements, generally in trace quantities, but enhanced levels of uranium mineralisation may be present in some lode or fault structures. Due awareness of this must be made in relation to NORMs.

4.1.4 Special Conditions for Management of Extractive Wastes

The management of extractive waste falls within the scope of the Mining Waste Directive (MWD) 2006/21/EC, which applies to the management of extractive waste generated from onshore oil and gas prospecting activities including drilling, coring, fall-off testing, acid wash and decommissioning but excluding any well stimulation or hydraulic fracturing (using oil and water-based drilling mud).

The successful contractor's strategy for extractive waste management must take into account (but will not be limited to) the following:

- Each consignment of waste will be sampled and characterised as soon as reasonably practicable and prior to despatch (and a reference sample retained);
- Only covered skips and enclosed tanks will be used for the temporary storage of extractive waste awaiting collection;
- All waste storage containers will be regularly inspected during drilling operations to ensure the discharge of cuttings and spent muds are placed in the correct containers. No containers will be over filled and all reasonable precautions will be taken to prevent spillages occurring;
- No hazardous waste will be stored for longer than is reasonably practicable as part of collection and transportation off site;
- All equipment used on site for the movement of fluid materials will have spill kits available and be operated by or supervised by staff trained in the use of the spill kit.







4.2 EGL's Requirements and Scope of Services

4.2.1 Key Requirements

EGL requires a contractor to develop and provide integrated waste management services for the full range of waste arisings during the drilling and testing of the first deep geothermal well at the Eden Project.

This will include, but may not be limited to, obligations to:

- Provide a waste management procedure for each waste stream/waste category;
- Design, provide, set up and manage an effective system for source separation, handling and storage of wastes;
- Produce a waste management system that identifies whether the substances in the waste are (i) inert; (ii) 'hazardous substances' or 'Persistent Organic Pollutants' (POPs); (iii) non-hazardous (iv) mirror hazardous; or (v) mirror non-hazardous;
- Identify an appropriate, cost effective approved waste disposal facility (for example, recent deep geothermal drilling at United Downs used the Wheal Jane waste disposal site) and ensure that all necessary permits and arrangements are in place to receive waste from the EGL site;
- Have in place an appropriate spillage policy, produce an effective methodology to deal with spillage and produce a spill management plan that ensures that any material spilt on site will be contained and removed, minimising the potential for environmental harm;
- Provide spill kits in all areas where extractive wastes are transferred or stored;
- Provide mud pit emptying and cleaning and cuttings pit emptying and cleaning services;
- Suggest cost-effective methods for the reuse of drilling waste and turning the drilling waste into value (see also Section 4.2.2);
- Provide additional drilling solids removal and control equipment if required (e.g. centrifuges, dryers, etc.);
- Propose effective rig site cleaning solutions;
- Provide EGL with copies of all relevant paperwork, including:
 - A description and classification (inert, hazardous, or and the waste classification (EWC) code for all waste disposed off site;
 - Risk assessment for waste disposal;
 - Waste Transfer notes and/or Hazardous Waste Consignment notes;
 - Waste Management Plan setting out how wastes will be monitored, recorded and managed for disposal.
- Maintain records of: (i) the quantities of all drill cuttings and their characterisation; (ii) all waste transfers. These records are to be retained by the operator for a minimum of 2 years and made available for inspection by the Environment Agency on request;
- Provide continuous supervision of the waste management system throughout all operations within the drilling and testing programme;
- Perform regular sampling and testing of drill cuttings and fluids waste streams using an accredited independent analysis company;







- Use in-house or a third-party licensed transport companies to move waste to a pre-approved licensed waste disposal/treatment/recycling facility;
- Provide all personnel and equipment (including pumps, jet washers, compressors, hoses, tanks, skips, and excavators) required for the onsite handling of all waste streams;
- Have in place appropriate policies and procedures relating to the above;
- Manage contact with, and report to, appropriate regulatory authorities in conjunction with all of the above.

Tenderers' submissions should make clear how they propose to achieve the above (see Schedule 3.)

4.2.2 Reuse and Recycling

The waste management system is a critical element of successful drilling operations and environmental protection. While it is likely that most of the waste produced during the drilling programme will have to be disposed off-site following the appropriate waste disposal regulations, EGL wishes to consider options for waste minimisation, re-use and recycling, wherever possible. Therefore, consideration should be given by the contractor to:

• Additional separation

It may be possible to separate cuttings from the drilling mud in order to reduce the quantity of material being disposed of off-site, perhaps through provision of secondary equipment.

• Recycling/Reuse

Recycling, composting or re-use of drill cuttings either within the Eden Project site or at other local facilities should be considered.

• Stabilisation

Stabilisation of the waste through thickening additives such as cement or lime, or through drying open ponds, may be possible. The stabilised cuttings from the first well could prove to be an effective cover material for land-fill sites or as a sub-base composite in road construction, for example.







PART D: RETURN OF TENDER

5 Tender Completion Documentation

This Section provides information to help Tenderers prepare their tenders. Applicants are advised to read all the documentation carefully to ensure that they are familiar with the nature and extent of their obligations should their tender be accepted.

The Applicant must complete and return all relevant documents as part of their Tender response. The tender return templates are contained in Part G:

- 1. Company Information Schedules 1a to 1j inclusive
- 2. Declarations Schedule 2
- 3. Technical submission Schedule 3
- 4. Commercial submission Schedule 4 (to be submitted separately).

Schedules 1, 2 and 3 may be submitted jointly but Schedule 4 must be submitted as a separate document.

It is the responsibility of the Applicant to inform EGL of any matter that may affect the Applicant's qualification.

All Applicants must complete Schedules 1, 2, 3 and 4. Applicants must ensure that all questions are completed in full, in English, and in the format requested. Failure to do so may result in the submission being disqualified. Applicants are expected to supply all required information, or clearly state the reason for being unable to do so. Where the question does not apply, please state clearly `N/A'. Where the answer is a statement of fact, it must be accurate. It is the Applicant's responsibility to ensure that EGL is not misled.

Any appropriate supporting documents (e.g.; maps, brochures, organisation charts, etc.) should be included as additional information. Please supply them as an Appendix. They should be numbered clearly and listed as part of your declaration. PDF is the only acceptable electronic file format. Any additional documents provided by the Applicant must refer to a specific item within the ITT and be easily identifiable as the answer to a particular question or set of questions.

Should the Applicant wish to propose a deviation from the specification, please ensure that this is clearly identified in the response where appropriate.







5.1 Company Information

5.1.1 Company Details

The Applicant must complete the details required in **Schedule 1a**. Where the Applicant is a consortium or partnership bidder, Schedule 1a must be completed by each member of the consortium or partnership.

5.1.2 Financial Matters

The Applicant is required to provide the information requested in **Schedule 1b**. In the case of a consortium or partnership bid, all members of the consortium or partnership should complete this information. This section may be used, in conjunction with credit reference agency checks if necessary, to gain a basic indication of the financial stability of the Applicant. The determination of the appropriate risk level will be proportionate and relevant to the size, value and nature of the specific contract being tendered. For this contract, EGL will wish to see Capital and Reserves in excess of $\pounds100,000$ GBP. Where the company does not have the required level of reserves, we will accept parent company or personal guarantees to the same value. EGL reserves the right to undertake further independent financial checks, if it feels it important to do so. Financial responsibility cannot be shared. Consortium or partnership bids must state one of the members of the partnership as the Lead Applicant, which will be the financially responsible party.

5.1.3 Legal Matters, Disputes and Conflicts

EGL is obliged to consider certain legal and conflict matters that could affect the ability of the Lead Applicant, or its partners, to deliver the services required for this contract. Some of these matters would lead to a mandatory exclusion. The Lead Organisation and its partner organisations must complete answers to all the questions in **Schedule 1c, 1d** and **1e**.

If the answer to any of the questions is 'yes', please provide full details and the steps taken as a consequence.

5.1.4 Insurances

For any Applicant to be successful, adequate insurance cover will be required. The minimum levels are indicated in Schedule 1f. The Lead Organisation, and any partners or consortium members, must complete **Schedule 1f** with the relevant information and confirm that the details entered are correct. If the Applicant does not currently have the required level of insurance, please confirm that it will have the cover required should it be awarded the contract. If the policy held is in the aggregate, the remaining cover must exceed the minimum requirements shown.







5.1.5 Equality and Diversity

The Lead Organisation must complete **Schedule 1g** confirming that their organisation and any partner or sub-contract organisation complies with its legal obligations under European law relating to equality and diversity.

5.1.6 Health, Safety, Quality Assurance and Environment

The Applicant must supply a copy of all relevant Health and Safety, Environmental Management and Quality Assurance policies as requested in **Schedules 1h & i**. In the case of a consortium or partnership bid, the Health and Safety, Quality Assurance and Environment policies of the lead Applicant shall be submitted with the proposal and shall prevail.

5.1.7 Company Experience

The Applicant should provide details (case studies) in **Schedule 1j** of up to three contracts, preferrably onshore in the UK, which demonstrate the expertise and experience of the lead Applicant and any proposed partners or sub-contractors in relation to EGL's requirements, most particularly as regards extractive waste management. References should be available for these contracts. Companies must demonstrate relevant prior experience and satisfactory references in order to pass this section and proceed to full technical and commercial evaluation.

5.1.8 Declaration

The Applicant (or each partner or member organisation in the case of a consortium bid) must complete the Declaration in **Schedule 2**.

5.2 Technical Submission

The detailed requirements and scope of work for the contract are set out in Part C. The Applicant's submission should take into account all relevant factors contained within the information, although EGL does not accept any responsibility for the accuracy or completeness of the information. Applicants must submit their bid based on the technical requirements described in Part C.

The Applicant must complete **Schedule 3**. Evidence should be provided to demonstrate:

- The experience, knowledge and skills of named personnel relevant to EGL's requirements. (EGL can only evaluate personnel, and not the company, in this section.)
- An appropriate methodology and programme, suitable for EGL's requirements as set out in Part C (Section 4) and Schedule 3 of this document.
- Proposals or ideas related to waste minimisation through reuse or recycling.
- Ensure you complete the tables for solids, liquid and equipment







5.3 Commercial Submission

The Applicant is required to provide a breakdown of pricing as follows:

- Per cu m and/or per tonne pricing for non-hazardous drilling (extractive) wastes each separately stored/collected, as set out in Table 4.1.2;
- Personnel rates for personnel directly involved with the contract;
- Waste disposal solids
- Waste disposal liquids
- Details of any additional charges;
- Total cost
- List of Equipment

For extractive wastes, a total price based on the indicative quantities outlined in Table 4.1.2 will be required. In order to ensure fair comparison, EGL's evaluation for this tender will be carried out based on this indicative quantity total price for extractive wastes.

All prices will be quoted in pounds sterling and should exclude VAT. If some prices are only estimated at this stage, please make it clear which these are (excluding VAT).

On award of the tender, the contract Terms and Conditions between EGL and the successful bidder will be based upon the LOGIC General Conditions of Contract for Services On and Off Shore, Edition 4, February 2019. (See Appendix D. The technical requirements and specifications provided in Part C of this document, the bidder's Technical Submission at Schedule 3, and the tenderer's prices submitted at Schedule4, will form part of that contract.

Where applicable, EGL will pay any VAT incurred at the prevailing rate (currently 20%). If the VAT rate changes, EGL will pay any VAT incurred at the new rate. It is the responsibility of the Applicant to check their VAT position with HMRC before submitting a bid.

5.4 Commercially Sensitive Information

Please outline in **Schedule 5** any items that the Lead Organisation or its partners consider to be genuinely Confidential and/or Commercially Sensitive and which should not be disclosed in respect of your Tender.









PART E: TENDER EVALUATION

6 Evaluation Process

This Section specifies the criteria to be used to determine the successful applicant and the requirements for the tenderer's qualification to perform the contract.

All applicants must prepare <u>separate</u> technical and commercial bid documents.

Technical and commercial bids must be received by Eden Geothermal Ltd in separate PDF files and hard copy documents, each quoting the tender number in the title.

All bids will be impartially evaluated against the same criteria by an `Evaluation Panel' on behalf of Eden Geothermal Limited.

The evaluation process will be conducted in a manner that ensures tenders are evaluated fairly to ascertain the most technically and economically advantageous tender. Each tender submission will be evaluated only on the information that is provided by the Applicant. Tenders may be rejected if the information asked for in the ITT and Specification is not given at the time of tendering.

Technical documents and bids will be restricted to the members of the Evaluation Panel, which has full power to make decisions on behalf of Eden Geothermal Limited. The evaluation will be carried out by the Evaluation Panel in distinct sections, with weightings applied where appropriate:

| Title | Evaluation Method |
|----------------------------------|-------------------|
| Company Information (Schedule 1) | Pass / Fail |
| Declarations (Schedule 2) | Pass / Fail |
| Technical Criteria (Schedule 3) | 40% |
| Commercial Criteria (Schedule 4) | 60% |

6.1 Company Information

The Company Information will be evaluated first and Applicants will be required to pass this stage before their Tenders are evaluated on the basis of their technical and commercial submission.







Ten criteria will be used to evaluate tenders, each being scored on a pass or fail basis. Applicants must pass all criteria to proceed to the remainder of the evaluation. The criteria are:

- a) Company Information Schedule 1a
- b) Economic and Financial Standing Schedule 1b
- c) Legal Matters Schedule 1c
- d) Grounds for Mandatory Exclusion Schedule 1d
- e) Other Grounds for Exclusion Schedule 1e
- f) Insurance Schedule 1f
- g) Equality and Diversity Schedule 1g
- h) Health & Safety Schedule 1h
- i) Quality Assurance and Environmental Management Systems Schedule 1i
- j) Company Experience Schedule 1j

The Company will be evaluated as follows:

Schedules 1a and 1b will be reviewed separately. The review of the Applicant's submission will only proceed to the remainder of Schedule 1 and Schedule 2 where the reviewer deems that the Applicant has passed these sections.

EGL will exclude any Applicant who answers 'Yes' in any of the situations in Schedule 1d, and may also exclude any Applicant who answers 'Yes' in any of the situations in Schedule 1e.

If the Applicant is made up of a Lead Organisation and other organisations who have jointly entered into a consortium, joint venture or other contracting arrangement, each of the organisations must pass all the criteria in order for the Tender to proceed to the remainder of the evaluation.

6.2 Technical Evaluation

Only Applicants that have passed the evaluation of Company Information will have their technical bids evaluated by the Evaluation Panel.

The technical submission should demonstrate the Applicant's expertise and capability to provide noise monitoring and advice services in accordance with the technical requirements and specifications set out in Part C and Schedule 3. The quality of the technical submission will be scored in accordance with the Scoring Matrix shown below:

- **5** Excellent Extremely good demonstration of relevant ability, understanding, experience, skills, resources and quality measures required to provide the services, with full evidence provided to support this.
- **4** Good Above average demonstration of the relevant ability, understanding, experience, skills, resource and quality measures required to provide the services, with a majority of evidence provided to support this.







- **3** Acceptable Satisfactory demonstration of the relevant ability, understanding, experience, skills, resources and quality measures required to provide the services, with some evidence to support this.
- 2 Minor Some reservations regarding the relevant ability, understanding, experience, skills, resources or quality measures required to provide the services, with little or no evidence to support this.
- **1** Major Serious reservations regarding the relevant ability, understanding, experience, skills, resources or quality measures required to provide the services, with no evidence to support this.
- **0** Unacceptable Non-compliance and/or insufficient information provided to demonstrate that there is the ability, understanding, experience, skills, resource and quality measures required to provide the services.

6.3 Commercial Evaluation

The Commercial Evaluation will be carried out for all submissions that that have been included in the Technical Evaluation (Schedule 3). Commercial submissions from those who failed to pass Schedules 1 and 2 will be destroyed unopened.

The commercial offer will be judged by reference to the tendered total price. The median price of all the tender prices will be calculated and this will be judged to equal 50% of the available commercial marks. Points will be awarded or deducted from this median score in proportion to the amount that the tender price is lower than or exceeds the median price. The maximum points will be awarded for offers which are less than or equal to half the median, and nil points will be awarded for offers which are more than or equal to double the median value.

Where EGL believes that the tendered prices have been prepared on an inconsistent basis with the other tenders, which creates an unfair advantage to the tenderer's offer, EGL will request that further information is provided to enable the Commercial evaluation to be carried out on a fair basis.

6.4 Total Score

The final 'Total Score' will be calculated by converting the Technical Evaluation score and the Commercial Evaluation score into percentages, which are then combined according to the weighting stated in the table in Section 4. The selected Applicant will be the one with the highest Total Score and this will be the award decision.

The Evaluation Panel will have the authority to send out a Letter of Intent to the proposed awardee, which should state that a contract will be awarded.







6.5 Clarification

During the evaluation process, EGL may need to seek clarification on aspects of an Applicant's submission. If required, EGL will contact the Applicant using the contact details provided. Clarification may require further submission or supplementation or clarification to complete the relevant information or documentation within an appropriate time limit. The purpose of any such clarification will be only to provide EGL with the information required to evaluate and score the submission; it will not be an opportunity for the Applicant to improve or substantially change the information that has already been submitted.

6.6 Award and Notification

Once EGL has completed the evaluation and has identified the successful tenderer(s), EGL will inform the winning Applicant(s) in writing by email of the 'award decision'.

The unsuccessful Applicants will be informed in writing of the fact at the same time after the closing of the evaluation procedure. EGL will offer feedback to every Bidder submitting an unsuccessful proposal.

The contract will then be awarded.







PART F: CONDITIONS

7 Conditions

7.1 Confidentiality and Freedom of Information

This document is proprietary to EGL and the information contained herein is confidential.

EGL confirms that it will keep confidential and will not disclose to any third parties any information obtained from a named Applicant contact, other than to the EU Managing Authority, to its funders, and under EGL's commitment to meeting its responsibilities under the Freedom of Information Act (FOI) 2000 or the Environmental Information Regulations (EIR) 2004. All information submitted to EGL may need to be disclosed in response to a request under these regulations.

The Applicant must treat all information supplied to it by EGL in confidence and must not disclose it to third parties other than to obtain sureties or quotations for submitting its response as part of the tendering process.

The Applicant must identify any parts of its tender submission which it designates as confidential and would not want published; such information may include technical or trade secrets or other confidential information in **Schedule 5**. The Applicant should explain (in broad terms) what harm may result from disclosure if a request is received, and the time period applicable to that sensitivity. However, the Applicant should be aware that, even where information has been categorised as being commercially sensitive, EGL may still be required to disclose it under the FOI or EIR if a request is received.

Without prejudice to EGL's obligation to disclose information in accordance with the FOI or EIR, EGL shall, acting reasonably, at its absolute discretion and notwithstanding any other provision in this Tender or otherwise seek to apply the commercial interests exemption to the information/documents listed in this Schedule.

7.2 Language

The completed tender and all accompanying documents must be in English.

7.3 Applicable Law

Any contract concluded as a result of this ITT will be governed by the law of England & Wales.

7.4 Additional costs

Once the contract has been awarded EGL will not pay any additional costs incurred which are not reflected in the tender submission.







7.5 Costs

Unless otherwise stated in this ITT, all costs associated with taking part in this process remain the Applicant's responsibility. The Applicant will not be entitled to claim from EGL any costs or expenses which may have been incurred in preparing the tender, whether or not the tender is successful. EGL will not return any part of the completed tender.

7.6 Right to cancel or vary the process

EGL reserves the right to cancel or withdraw from the tendering process at any stage. Cancellation of the procurement process (at any-time) under any circumstances will not render Eden Geothermal Ltd liable for any costs or expenses incurred by bidders during the procurement process.

7.7 Inducements

Offering an inducement of any kind in relation to obtaining this or any other contract with EGL will disqualify the Applicant from being considered and may constitute a criminal offence.

7.8 Disclaimer

The issue of the information and the tender does not commit Eden Geothermal Ltd to award any contract pursuant to the bid process or enter into a contractual relationship with any provider of the service. Nothing in the tender or in any other communications made between Eden Geothermal Ltd or its agents and any other party, or any part thereof, shall be taken as constituting a contract, agreement or representation between Eden Geothermal Ltd and any other party (save for a formal award of contract made in writing by or on behalf of Eden Geothermal Ltd).

While the information in this ITT and supporting documents has been prepared in good faith by EGL, it may not be comprehensive, and nor has it been independently verified. Neither EGL nor their advisors, nor their respective directors, officers, members, partners, employees, other staff or agents:

- makes any representation or warranty (express or implied) as to the accuracy, reasonableness or completeness of this ITT; or
- accepts any responsibility for the information contained in the ITT or for the accuracy or completeness of that information; or
- shall be liable for any loss or damage (other than in respect of fraudulent misrepresentation) arising as a result of relying on such information or any subsequent communication.







PART G: SCHEDULES / TENDER SUBMISSION TEMPLATES

Schedule 1a - Company Details. To be completed by each consortium member.

| Applicant details | Answer | |
|---|--|--|
| Full name of the Applicant completing the ITT | | |
| Trading name (if different) | | |
| Registered company address | | |
| Registered company number | | |
| Name of immediate parent company | | |
| Name of ultimate parent company | | |
| | Public limited company | |
| | Limited company | |
| | Limited liability partnership | |
| Type of company (please tick relevant boxes) | Other partnership | |
| | Sole trader | |
| | Other | |
| | Small or medium enterprise | |
| | Bidding as a Prime Contractor and will deliver 100% of the key contract deliverables | |
| Tendering model (please tick | Bidding as a Prime Contractor and will use third parties to deliver some of the services | |
| relevant box) | Bidding as Prime Contractor but will operate as a Managing Agent and will use third parties to deliver all of the services | |
| | Other (please specify) | |
| Contact details | | |
| Name | | |
| Position | | |
| Postal address | | |
| Country | | |
| Phone number | | |
| Email | | |







Schedule 1b - Economic and Financial Standing

| (a) Please state the name and title of the person in your business responsible for financial matters. | | |
|---|----------|-------------------|
| | Enclosed | Not Applicable |
| (b) Please enclose copies of the business' audited accounts of the past two years, to include: Balance Sheet Profit and Loss Account Full notes to the Accounts Director's Report Auditor's Report | | |
| (c) If the accounts submitted for section (b) above are for an accounting year ended more than 10 months ago, please confirm that the business is still trading and provide the latest summary of management accounts. | | |
| (d) Has there been any event since the last audited accounts that could affect the going concern status of the company? | | |
| (e) Please confirm that we may obtain references from your bankers and provide their name and address. | | |
| (f) Registered VAT number | | |
| (g) Has there been any event since the last audited accounts that could affect the going concern status of the company? If yes, please provide details. | | |

Note: EGL will wish to see evidence of Capital and Reserves in excess of $\pm 100,000$ GBP for this contract. Where the company does not have the required level of reserves, we will accept parent company or personal guarantees to the same value.







Schedule 1c - Legal Matters and Disputes

| Has the Applicant, or any of its proposed partners, in the last three years: | Yes/no If yes, please provide details including details of any unresolved disputes, or outstanding claims or litigation. |
|--|---|
| (a) been prosecuted or had any Court judgements awarded against it? | |
| (b) had penalties, default notices or liquidated damages awarded against it? | |
| (c) been in breach of any contract, had a contract terminated or not had a contract renewed due to a failure to meet its obligations? | |
| (d) been prosecuted for breaking any UK or EU, or equivalent national legislation relating to the environment or Health and Safety? | |
| (e) had any notice served upon it by an environmental regulator or authority? | |
| (f) had any finding of unlawful discrimination made against it by any court of law or industrial or employment tribunal? | |
| (g) been the subject of a formal investigation on grounds of alleged unlawful discrimination? | |
| (h) been convicted for failure to prevent corruption or bribery under section 7 of the Bribery Act 2010? | |
| (i) been the subject of any health / safety on- the-job citations, violations or demands from any employees? | |

EGL will decide whether an answer 'Yes' to any of the questions listed above and its consequential details constitutes an acceptable risk. Where the Applicant (including the Lead Organisation and all other organisations) answers 'No' to all of the above the Applicant will pass. EGL-ITT-C049 Waste Management Ver 1.0







Schedule 1d - Grounds for Mandatory Exclusion

Within the past five years, has your organisation (or any member of your proposed consortium, if applicable), Directors or partner or any other person who has powers of representation, decision or control been convicted of any of the following offences? Please indicate your answer by marking '**X**' in the relevant box.

| | Yes | No |
|---|-----|----|
| (a) conspiracy within the meaning of section 1 or 1A of the Criminal Law Act 1977 or article 9 or 9A of the Criminal Attempts and Conspiracy (Northern Ireland) Order 1983 where that conspiracy relates to participation in a criminal organisation as defined in Article 2 of Council Framework Decision 2008/841/JHA on the fight against organised crime; | | |
| (b) corruption within the meaning of section 1(2) of the Public Bodies Corrupt Practices Act 1889 or section 1 of the Prevention of Corruption Act 1906; | | |
| (c) the common law offence of bribery; | | |
| (d) bribery within the meaning of sections 1, 2 or 6 of the Bribery Act 2010; or section 113 of the Representation of the People Act 1983; | | |
| (e) any of the following offences, where the offence relates to fraud affecting the European Communities' financial interests as defined by Article 1 of the Convention on the protection of the financial interests of the European Communities: (i) the offence of cheating the Revenue: | | |
| (i) the offense of conspiracy to defraud | | |
| (iii) fraud or theft within the meaning of the Theft Act 1968, the Theft Act (Northern Ireland) 1969, the Theft Act 1978 or the Theft (Northern Ireland) Order 1978; | | |
| (iv) fraudulent trading within the meaning of section 458 of the Companies Act 1985, article 451 of the Companies (Northern Ireland) Order 1986 or section 993 of the Companies Act 2006; | | |
| (v) fraudulent evasion within the meaning of section 170 of the Customs and Excise Management Act 1979 or section 72 of the Value Added Tax Act 1994; | | |
| (vi) an offence in connection with taxation in the European Union within the meaning of section 71 of the Criminal Justice Act 1993; | | |
| (vii) destroying, defacing or concealing of documents or procuring the execution of a valuable security within the meaning of section 20 of the Theft Act 1968 or section 19 of the Theft Act (Northern Ireland) 1969; | | |
| (viii) fraud within the meaning of section 2, 3 or 4 of the Fraud Act 2006; or | | |





European Union European Regional Development Fund





| | Yes | No |
|--|-----|----|
| (ix) the possession of articles for use in frauds within the meaning of section 6 of the Fraud Act 2006, or the making, adapting, supplying or offering to supply articles for use in frauds within the meaning of section 7 of that Act; | | |
| (x) disproportionate history of personnel and technical safety violations | | |
| (f) any offence listed in (i) in section 41 of the Counter Terrorism Act 2008; or (ii) in Schedule 2 to that Act where the court has determined that there is a terrorist connection; | | |
| (g) any offence under sections 44 to 46 of the Serious Crime Act 2007 which relates to an offence covered by subparagraph (f); | | |
| (h) money laundering within the meaning of sections 340(11) and 415 of the Proceeds of Crime Act 2002; | | |
| (i) an offence in connection with the proceeds of criminal conduct within the meaning of section 93A, 93B or 93C of the Criminal Justice Act 1988 or article 45, 46 or 47 of the Proceeds of Crime (Northern Ireland) Order 1996; | | |
| (j) an offence under section 4 of the Asylum and Immigration (Treatment of Claimants etc.) Act 2004; | | |
| (k) an offence under section 59A of the Sexual Offences Act 2003; | | |
| (I) an offence under section 71 of the Coroners and Justice Act 2009; | | |
| (m) an offence in connection with the proceeds of drug trafficking within the meaning of section 49, 50 or 51 of the Drug Trafficking Act 1994; or | | |
| (n) any other offence within the meaning of Article 57(1) of the Public Contracts Directive— | | |
| (i) as defined by the law of any jurisdiction outside England and Wales and Northern Ireland; or | | |
| (ii) created, after the day on which these Regulations were made, in the law of England and Wales or Northern Ireland. | | |
| (o) Any breach of obligations related to the deduction of tax or social security from any employee or contractor, or to its obligation for payment of any tax or social security contributions that has been established by a judicial or administrative decision having final and binding effect in accordance with the legal provisions of any part of the United Kingdom or the legal provisions of the country in which your organisation is established (if outside the UK). | | |





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Schedule 1e - Other Grounds for Exclusion

Within the past three years, please indicate if any of the following situations have applied, or currently apply, to your organisation (or any member of your proposed consortium, if applicable). Please indicate your answer by marking `**X**' in the relevant box.

| | Yes | No |
|--|-----|----|
| (a) your organisation has violated applicable obligations referred to in regulation 56 (2) of the Public Contracts Regulations 2015 in the fields of environmental, social and labour law established by EU law, national law, collective agreements or by the international environmental, social and labour law provisions listed in Annex X to the Public Contracts Directive as amended from time to time; | | |
| (b) your organisation is bankrupt or is the subject of insolvency or winding- up proceedings, where your assets are being administered by a liquidator or by the court, where it is in an arrangement with creditors, where its business activities are suspended or it is in any analogous situation arising from a similar procedure under the laws and regulations of any State; | | |
| (c) your organisation is guilty of grave professional misconduct, which renders its integrity questionable; | | |
| (d) your organisation has entered into agreements with other economic operators aimed at distorting competition; | | |
| (e) your organisation has a Conflict of Interest (CoI) within the meaning of regulation 24 of the Public Contracts Regulations 2015 that cannot be effectively remedied by other, less intrusive, measures; (*) | | |
| (f) the prior involvement of your organisation in the preparation of the procurement procedure has resulted in a distortion of competition, as referred to in regulation 41, that cannot be remedied by other, less intrusive, measures; | | |
| (g) your organisation has shown significant or persistent deficiencies in the performance of a substantive requirement under a prior public contract, a prior contract with a contracting entity, or a prior concession contract, which led to early termination of that prior contract, damages or other comparable sanctions; | | |
| (h) your organisation has negligently provided misleading information that may have a material influence on decisions concerning exclusion, selection or award. | | |
| (i) your organisation has committed an offence under the Modern Slavery Act 2015. | | |

(*) Conflicts of interest – see next page







* Conflicts of Interest: EGL may exclude the Applicant if there is a conflict of interest which cannot be effectively remedied. The concept of a conflict of interest includes any situation where relevant staff members have, directly or indirectly, a financial, economic or other personal interest which might be perceived to compromise their impartiality and independence in the context of the procurement procedure. Where there is any indication that a conflict of interest exists or may arise then it is the responsibility of the Applicant to inform EGL, detailing the conflict in a separate Appendix. Provided that it has been carried out in a transparent manner, routine pre-market engagement carried out by EGL should not represent a conflict of interest for the Applicant.

If you have answered 'Yes' to any of the above question, please use a separate Appendix to provide further details.







Schedule 1f - Insurance Cover

| Insurance | |
|--|--|
| Employer's Liability (minimum £5m cover) | |
| Employers' Liability insurance shall cover all employees engaged in the performance of the Contractor's services. | |
| Insurer | |
| Policy Number | |
| Amount of cover £ | |
| Renewal Date | |
| Public Liability (minimum £5m cover) | |
| General Third Party Liability insurance for any incident or series of incidents covering the operations of the Contractor and its Sub- Contractors in the performance of the Contract. | |
| Insurer | |
| Policy Number | |
| Amount of cover £ | |
| Renewal Date | |
| The policy shall include, but not be limited to, coverage of (i) damage to third party property, (ii) bodily and personal injury (iii) premises and operations, (iv) independent contractors, (v) completed operations, (vi) contractual liability (or their equivalents). | |





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Schedule 1g - Equality and Diversity

The Lead Organisation and all other organisations must confirm that their organisation complies with its legal obligations under European law relating to the following:

| Item | Confirm Yes / No |
|---------------------------------|---------------------|
| a) Race | |
| b) Sexual Orientation | |
| c) Gender Reassignment | |
| d) Disability | |
| e) Age | |
| f) Religion or Belief | |
| g) Sex | |
| h) Marriage & Civil Partnership | |
| i) Pregnancy & Maternity | |

In order to pass this criterion, all organisations must answer 'yes' to all items.





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Schedule 1h - Health and Safety

This section should be filled out by the lead Applicant on behalf of partners/other consortium members. The lead Applicant's policies should be provided and shall prevail for all partners/consortium members.

| (a) Name of Director, Partner or persons responsible for the implementation of the company's Health and Safety Policies. | | |
|--|----------|-------------------|
| | Enclosed | Not Applicable |
| (b) State the total number of Employees | | |
| (c) Please enclose a signed copy of your Health and Safety Policy indicating when it was last reviewed and by whose authority it was published. | | |
| | None | Enclosed |
| (d) Please provide evidence of all RIDDOR (the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1999) reportable events for the last three years. This should include a system for reviewing all incidents, and recording the action taken as a result. | | |
| | | |
| (e) Please enclose details of prosecutions or notices served on your company under the Health and Safety at Work A | | |







Schedule 1i - Quality Assurance, Environmental Management and Corporate Social Responsibility

This section should be filled out by each partner or member of proposed consortium, where applicable.

| (a) Name of Director, Partner or persons responsible for the implementation of the company's Environmental and Quality Assurance Policies. | | |
|---|----------|-------------------|
| | Enclosed | Not Applicable |
| (b) Have you acquired any recognised Quality Assurance accreditation relevant to this contract? If yes, please provide details. | | |
| If no accreditation is held, please attach an outline of your Quality Assurance Policy or, if you have no policy, give reasons why. | | |
| (c) Please provide details of any Environmental Management System certification that your company holds, e.g. ISO 14001 or equivalent standard which is pending. Please include a copy of any certificate. | | |
| If no accreditation is held, please attach an outline of your Environmental Policy or, if you have no policy, give reasons why. | | |
| (d) Please enclose a copy of your Corporate Social Responsibility Policy, or other equivalent policy document (if available) | | |







Schedule 1j - Company Experience

Using the table below, please provide details (case studies) of up to **three** contracts, preferably onshore in the UK, from the past five years, in any combination from either the public or private sector, which demonstrate prior expertise and experience in management of extractive wastes which are relevant to EGL's requirements for this tender. Contracts may include grant-funded work.

The named contact provided should be able to provide written evidence to confirm the accuracy of the information provided below. If you attach information for the 'Description of Contract' section (e.g. case studies), please specify 'attached' in the relevant box and clearly label/reference the supporting material.

Consortium bids should provide relevant examples of where the consortium has delivered similar requirements. If this is not possible (e.g. the consortium is newly formed or a Special Purpose Vehicle is to be created for this contract) then three separate examples should be provided between the principal member(s) of the proposed consortium or Special Purpose Vehicle (three examples are not required from each member).

Where the Supplier is a Special Purpose Vehicle, or a managing agent not intending to be the main provider of the supplies or services, the information requested should be provided in respect of the main intended provider(s) or sub-contractor(s) who will deliver the contract.

| | Contract 1 | Contract 2 | Contract 3 |
|------------------------|------------|------------|------------|
| Name of | | | |
| organisation | | | |
| Point of | | | |
| organisation | | | |
| Position in | | | |
| the organisation | | | |
| E-mail | | | |
| Description of | | | |
| contract (max 300 | | | |
| words) | | | |
| Contract Start date | | | |
| Contract | | | |
| completion date | | | |
| Estimated | | | |
| contract value | | | |





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Please also provide evidence of any company technical accreditations and/or membership of professional bodies relevant to EGL's requirements for this contract. Any appended information should be referenced in the table below.

Important note: The information given in this section will be used to assess whether the bidding company meets the minimum experience criteria to proceed to full technical evaluation:

- Prior experience of managing extractive wastes;
- Satisfactory reference(s) to support this experience.

Subcontracting

Where you intend to sub-contract a proportion of the contract, please demonstrate how you have previously maintained healthy supply chains with your sub-contractor(s).

Evidence should include, but is not limited to, details of your supply chain management tracking systems to ensure performance of the contract and including prompt payment or membership of the UK Prompt Payment Code (or equivalent schemes in other countries).







Submission of Supporting Information

Please clearly label/reference any supporting information submitted in conjunction with Schedule 1j and list all documents using the table below.

| Document Reference | Relevance/reason for inclusion |
|--------------------|--------------------------------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |







Schedule 2 - Declarations

I/We understand that the information provided in this document and any supporting information provided by us will be relied upon and taken to be true and accurate. Should it subsequently be determined that any information supplied by us was inaccurate, I/we understand and accept that Eden Geothermal Limited reserves the right to exclude our offer to supply (if still under evaluation) or if the Contract has been awarded and the information that was inaccurately supplied had a significant influence on the award, that Eden Geothermal Limited shall be at liberty to terminate the Contract.

I/We understand that Eden Geothermal Limited is not bound to accept the lowest price or any tender that may be received.

| Name of organisation | |
|---|--|
| Name of person applying on behalf of organisation | |
| Signature | |
| Title / position of person | |
| Date | |
| Contact telephone | |
| Contact e-mail | |
| Address and post code | |
| Registered office if different from above | |





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Schedule 3 – Technical Submission

Evaluation Criteria

There are 3 technical (quality) evaluation criteria:

- Personnel
- Methodology and Approach
- Waste minimisation

Each category will be evaluated in line with the scoring criteria set out in Section 6.2.

Category 1: Personnel (5% of total marks)

Please provide details of a minimum of **2** and a maximum of **4** named individuals with job titles and, for each:

- A description of their role in this contract;
- An outline of expertise/experience/skills relevant to this contract, either in their current role or prior.

Where possible, please refer to past contracts, clearly referencing the individual's role and contribution in each case.

Each person's profile should be no more than two sides of A4 in length, but should provide enough detail to enable us to evaluate their expertise.

Where subcontractors will be undertaking a significant proportion of the work, you may wish to include key subcontractor personnel.

Please list the profiles provided in the table on the next page.

Category 2: Methodology and Approach (30% of total marks)

Please explain your approach to this project as fully as possible within a maximum of five sides of A4.

Your submission should provide a summary of your proposed waste management strategy / programme, covering each of the waste streams set out in Part C (Section 4) of this document, and EGL's requirements (also set out in part C (Section 4)).

You should make clear how you consider your proposal achieves the best all-round outcomes from the interplay of the various commercial, technical and operational factors involved.

You should provide details of:

- Arrangements for obtaining the necessary permits and permissions and for ensuring all relevant regulations are complied with;
- The infrastructure and equipment to be provided for handling and temporary storage of wastes on site (provisional types and numbers of units);







- Emptying and transportation arrangements;
- Billing arrangements: how costs will be calculated and presented to EGL;
- Any other information you feel is relevant.

If relevant/appropriate, you may provide additional information as an appendix to this category. Please list any supporting information in the table overleaf.

Please complete the tables below with your assumptions.

Waste Disposal – Solids

| Hole size | Length (m) | Assumed density of solids (S.G.) | Assumed volume of solids (cu m) | Assumed weight of solids (tonnes) |
|--------------|---------------|--|--|---|
| 26″ | 300 | | | |
| 17½″ | 1200 | | | |
| 12¼″ | 2610 | | | |
| 81/2″ | 900 | | | |

Waste Disposal – Liquid

| Hole size | Length (m) | Assumed density of liquid (S.G.) | Assumed volume of liquid (cu m) | Assumed weight of liquid (tonnes) |
|--------------|---------------|--|--|---|
| 26″ | 300 | | | |
| 17½″ | 1200 | | | |
| 12¼″ | 2610 | | | |
| 81⁄2″ | 900 | | | |

The total cost of disposal is to be all-inclusive (excluding personnel charges) to final disposal

List of equipment

Please list the equipment that you are proposing to provide during the drilling programme

| Hole size | Equipment |
|---------------|-----------|
| 26" section | |
| 17½" section | |
| 12¼″ section | |
| 81⁄2" section | |







Category 3: Waste minimisation (5% of total marks)

Please outline your proposals, suggestions or ideas for re-use or recycling of waste materials, with estimates of the quantities/proportion of waste arisings which might be diverted from disposal.

Suggestions which are based on proven solutions (with reference to case studies or other contracts) **and/or** which are novel/innovative are welcomed.

Submission of Supporting Information

Please clearly label/reference any supporting information submitted in conjunction with this Schedule and list all documents using the table below. In addition to the document reference/name, you should clearly mark the category under which it is to be considered (1 – Personnel; 2 – Methodolgy and Approach; 3 – Waste Minimisation) and, if appropriate/ necessary, provide a brief explanation of why you have included it. You may add more rows if necessary.

| Document Reference | Evaluation Category | Relevance/reason for inclusion |
|-----------------------|------------------------|--------------------------------|
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Declaration

We confirm that:

- We have inspected this Tender Document and accompanying information relating to the Eden Geothermal Ltd Tender and hereby offer to provide the services as set out in Part C (Section 4) of this document.
- The Technical Submission is accurate to the best of our knowledge.

| Name of Organisation | |
|--------------------------|--|
| Name of Person Signing | |
| Capacity in which Signed | |
| Signature | |
| Date | |







Schedule 4 - Commercial Submission

(Please note this Schedule is to be returned in a separate document).

There are seven sections for bidders to complete:

- 1 Price for personnel
 - 2 Waste disposal solids.
 - 3 Waste disposal liquids
 - 4 Additional charges
 - 5 Total price
 - 6 List of equipment
 - 7 Declaration

We recognise that final prices for this part of the contract will depend upon the length of the programme, and upon the amount of waste that is produced. For the purposes of fair comparison and evaluation, please base your prices for this section on a provisional programme of waste disposal totalling 150 days and identify the assumptions made for both solids and liquids disposal, referring to the estimated quantities of drill arisings in Section 4.1, Table 4.1.2.

Please provide the relevant commercial data in the blue boxes.

1. Personnel

| | Personnel | Estimated drilling period (days) | No. of Days on SIte | Daily Rate (£) | Cost (£) |
|-----|-------------------------|---|------------------------|-------------------|-------------|
| 1.1 | Waste disposal engineer | 150 | | | |
| 1.2 | Travel | N/A | | | |
| 1.3 | Subsistence | N/A | | | |
| 1.4 | Call-out cost | N/A | | | |
| | Total Price (exc VAT) | N/A | N/A | N/A | |

2. Waste Disposal – Solids (refer to Table 4.1.2: Estimated Quantity of Drill Arisings)

| | Hole size | Estimated weight of arisings (tonne)* | Rate per tonne (£) | Cost per hole section (£) |
|-----|-----------------------|---|--------------------|---------------------------------|
| 2.1 | 26″ | 196 | | |
| 2.2 | 171⁄2″ | 344 | | |
| 2.3 | 12¼″ | 346 | | |
| 2.4 | 81/2″ | 56 | | |
| | Total Price (exc VAT) | N/A | N/A | |

(*) the estimated weight of dry broken granite is based on an S.G of 1.65







3. Waste Disposal – Liquid

| | Hole size | Estimated weight of liquid (tonnne)* | Rate per tonne (£) | Cost per hole section (£) |
|-----|-----------------------|--|--------------------|---------------------------------|
| 3.1 | 26″ | 54 | | |
| 3.2 | 171⁄2″ | 108 | | |
| 3.3 | 12¼″ | 216 | | |
| 3.4 | 81/2″ | 162 | | |
| | Total Price (exc VAT) | N/A | N/A | |

(*) the estimated weight of drilling fluid (with fine cuttings) liquid is based on an S.G of 1.08

4. Additional Charges

| | Additional items (ie costs not already included in 1,2 or 3 above) | Cost (£) |
|-----|--|----------|
| | Summarise and provide details below (if appopriate) | |
| | | |
| 4.1 | | |
| | | |
| | Total Price (exc VAT) | |

Notes

i. Currency / VAT

All prices to be shown in £ sterliing, and excluding VAT.

ii. Personnel

Please ensure that employee profiles are included in Schedule 3 for the key employees shown above

iii. Disbursements

Disbursements for travel and subsistence may be included at a single daily rate.

iv. Other Charges

Please ensure that sufficent description is included to give a proper understanding of the charge.







5 Total Price Breakdown for Evaluation

Please summarise the totals from the three tables above

| | Total Price (£) |
|---|-----------------|
| Personnel | |
| Waste disposal – drilling solids | |
| Waste disposal – drilling liquids | |
| Additional Charges (from Section 4 above) | |
| Total Price (exc VAT) | |

Declaration

We confirm that:

- The Commercial Submission is accurate to the best of our knowledge.
- We understand that you do not bind yourselves to accept the lowest or any tender.
- We accept the contract conditions for this contract and this tender remains open for acceptance for 90 days.
- We understand that the Waste Disposal Services part of the contract will be based upon the rates quoted above but that the number of weeks and the quantity of waste shown above is for illustrative purposes only

| Name of Organisation | |
|--------------------------|--|
| Name of Person signing | |
| Capacity in which signed | |
| Signature | |
| Date | |







Schedule 5 - Commercially Sensitive Information

Eden Geothermal Limited may be obliged to disclose information in or relating to this Tender following a request for information under the FOIA or EIR. Please outline in the table below items that you consider to be genuinely Confidential and/or Commercially Sensitive which should not be disclosed in respect of your Tender (see Section 7.1)

| Information | Reference | Reason for non- | Duration of |
|-------------|-----------|-----------------|-----------------|
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This schedule will be kept with the Tender documents for consideration should a request for information under the Freedom of Information Act 2000 or Environmental Information Regulations 2004 be received. This document will be destroyed in line with the retention and destruction policy of Eden Geothermal Limited.









APPENDICES

APPENDIX A – Eden Geothermal Site

The site has a total area of approximately 28,000 m2, which will include a working area of \sim 12,000 m² at the southern end of the site to accommodate a large land-based drilling rig. A small wet woodland area in the centre of the site will be retained for ecology purposes.

The proposed site layout for the drilling programme is shown in Figure A1, but the precise site layout and design has still to be finalised. The site will be fully prepared as a suitable onshore drilling location prior to the arrival of the drilling rig.

Access into the site will be directly from the main Eden Project entrance. The site will be divided into:

- 1) 'Operational Area' the main working area within the Operational Area (at the southern end of the site) will comprise approximately 12,000 m2. The working area will be level and centred around the well cellars and drilling pad.
- 2) 2) 'Non-Operational Area' within the northeast part of the site, comprising hardstanding for various modular/portable buildings and vehicle parking.

Within the Operational Area the substructure of the drilling rig will sit on a level reinforced concrete pad. The pad will be centred on two 3 m diameter concrete cellars 10 m apart, each approximately 4 m deep. The 30" steel conductor pipe, which forms the collar of each well, will be installed in the centre of each cellar to a depth of about 40 m.

The well pads will be surrounded by an impermeable spillage containment area, approximately 120m x 60m, within which the main components of the drilling rig will be positioned.

A lined cuttings pit (~250 m3 capacity) will be located adjacent to the north side of the drilling pad to collect cuttings/overflow from the rig shakers. The overflow discharge from the pit will pass through an oil interceptor, from which the clean water will discharge into the perimeter drainage ditch.

A lined water storage lagoon (~3,500 m3 capacity) will be constructed adjacent to the cuttings pit, to store either fresh water or cleaned drilling fluids and formation fluid.

The remainder of the Operational Area will comprise hardstanding for ancillary rig units (workshops, stores, etc.), portable buildings and offices, welfare facilities, toolpusher's cabin(s) and storage areas for drilling equipment and materials.



Figure A1 Eden Geothermal site

EGL-ITT-C049 Waste Management Ver 1.0







Planning Conditions

Planning consent was granted in 2010. Working times of 24 hours per day, 7 days per week are permitted during the drilling and well testing operations.

The geothermal site is situated in a quiet rural area with nearby residences. Specific conditions apply in the planning consent to the abatement of noise, due to the proximity of these residences and to environmental regulations:

"The noise emissions from drilling operations shall not exceed 45 dB LAeq, 1 hr measured 1 m from any noise-sensitive receptor at any time."

Continuous noise monitoring will be carried out around the site and at nearby properties throughout the drilling programme. The nearest receptor is a residential property situated approximately 190 m ENE to the well site.

Access

The transport route to be used by HGVs serving the site has been recommended and included within the Transport Management Plan, and is shown at Figure A2.

This route assumes that most of the HGV loads will travel to and from the A30 trunk road, leaving at the Victoria Interchange and following the B3274 through Roche to the Singlerose Roundabout at Stenalees and on to the A391 towards St Austell, taking the turn-off to the Eden Project at Carluddon and entering the Eden Project at the North Gate, with the site immediately on the right.

This route is intended to minimise disruption to the local road network and to avoid transportation constraints, such as weak bridges.



Figure A2: Transport route to the Eden Geothermal site



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APPENDIX B – Geology

The drilling site at the Eden Project is located on the southeast flank of the St Austell granite mass, which forms part of the Cornubian Batholith that runs under the spine of Cornwall.

The granite in the vicinity of the site is medium to coarse-grained (megacrystic) biotite granite. The granite is expected to contain feldspar megacrysts (15 - 20 mm size) in a coarse-grained matrix of alkali feldspar, plagioclase, biotite, quartz and white mica. The components of the granite, from near surface data, at the Eden Project are quartz (\sim 34 %), alkali-feldspar (\sim 32 %), plagioclase (\sim 22 %), biotite (\sim 6 %), muscovite mica (\sim 4 %) and primary tourmaline (1 %) and other minerals (1 %). With depth there are likely to be changes in grain size and mineral composition, perhaps with the granite becoming finer grained with depth.







APPENDIX C – Drilling Design and Programme

Objective of Well EG-1

The EG-1 well will have to serve multiple purposes:

- 1. A geological exploration well targeting the Great Crosscourse fault system at a depth of about 4.1 4.8 km (TVD) to evaluate its hydraulic properties.
- 2. Within the ERDF programme it will initially serve as a well for a single deep borehole heat exchanger.
- 3. In a second stage, provided the hydraulic properties of the Great Crosscourse fault system turn out to be promising (as expected), it will become one well of a geothermal doublet system utilised for power and heat production. However, at the current of the project, it cannot be determined if the well would be used as a production or or injection well.

The total depth of the first well will be based on drilling through the target structure and allowing a 50 to 100 m of 'rat hole' beyond this. The drilling will be followed by hydraulic testing on this well to provide data about the hydrogeological conditions at target depth. This will provide essential verification about the technical and commercial viability of the proposed system.

Basis of well design

The appropriate method to drill a deviated geothermal well in fractured crystalline rock to a depth of about 4,500 m (TVD) is considered to be the conventional rotary mud drilling technology. The well as planned will comprise five sections (see Table C1 and Figure C1). During the drilling programme, each section will be cased apart from the $8\frac{1}{2}$ " section, which will be open hole, unless wellbore stability requires a perforated liner. The casing design will allow for thermal stresses across the temperature range from ambient temperature at surface to the maximum allowed production temperature.

| Section | Hole size | Casing size | Depth [m] MD | Description |
|---------|-----------|-------------|---------------------|---------------------|
| 1 | 34-36" | 30" | ca. 40 | conductor |
| 2 | 26" | 20" | 300 | surface casing |
| 3 | 17 1⁄2" | 13 3⁄8" | ~1,500 | intermediate casing |
| 4 | 12 ¼" | 9 5⁄8" | ~ 4,000 | production casing |
| 5 | 8 1⁄2" | (7") | 4,000-max ca. 5,260 | open hole |

Table C1: Well design

The 30" conductor will be installed by a boring machine prior to mobilising the rig.





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Figure C1: Well schematic





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The well trajectory is planned using a KOP at 1700 m TVD, a very moderate initial build rate of $0.43^{\circ}/30$ m and a KO and EOB azimuth of N 68° (fault dip direction). The estimated well length (MD) for the target intersection is approximately 4,350 m at an inclination of about 35° - 40°. It is the aim of our well planning to keep the well trajectory as smooth as possible to minimise drag and torque in the granitic formation (no mud cake).

Consequently, the EG-1 well will require directional drilling assemblies throughout the entire well consisting of downhole drilling motors, stabilizers and MWD systems in order to properly control the well direction. During drilling of the 81/2" openhole section, if heavy or full mud losses are encountered while crossing the fractured / faulted zones, it may be necessary to lay down the directional assembly to reduce the risk of losing the valuable tools in the well. At this point, it would then be required to pick up a rotary assembly to continue drilling to total depth.

Drilling programme

- 1. Mobilise and rig up drilling rig over well centre. Prepare spud mud.
- 2. Drill 26" vertical hole to 300 m with motor, shock absorber and MWD
- 3. Set 20" casing and cement to surface using inner string cementing technique.
- 4. After cement is set, cut off 20" casing to near cellar floor and install 20 ³/₄" 3,000 psi SOW casing head. Test the weld to 3,000 psi. Install 20³/₄" 3,000 psi temporary spacer spools and. nipple up 20³/₄" 3,000 psi annular BOP and hook up to flow line. Test BOP.
- 5. Drill $17^{1}/_{2}$ " vertical hole to 1,500 m with motor and MWD.
- 6. Log well (cement volume) and make any other scientific measurements required.
- 7. Run $13^{3}/_{8}$ " casing to bottom, cement casing with weight reduced cement to surface.
- After the cement is set, release casing, set slips. Remove 20³/₄" 3,000 psi annular BOP and 20³/₄" 3,000 psi spacer spools, cut off 13³/₈" casing. Install 20³/₄" 3,000 psi spacer spool, DSA, 13⁵/₈" 5,000 psi mud cross with hook up for kill and choke line and nipple up 13⁵/₈" 10.000 psi BOP stack and test.
- 9. Drill $12^{1}/_{4}$ " vertical hole from 1,500 to 1,700 m with motor and MWD.
- 10. Kick-off @ 1,700 m and directionally drill 12¹/₄" hole to 4,000 m (MD) with gradual angle build using motor and MWD
- 11. Log well (cement volume) and perform all required scientific measurements.
- 12. Run 4,000 m of $9^{5}/8^{"}$ casing. Then cement the $9^{5}/8^{"}$ casing from 4,000 m to at least 1,400 m depth (above $13^{3}/8^{"}$ casing shoe) in 2 stages with weight-reduced cement.
- 13. Drill 8¹/₂" deviated well (install mud cooling system as required), either:
 - Drill directionally to about 4,350 m MD, (about 4,160 m TVD). Maximum inclination will be in the order of 35°; or
 - If no indication for the fault can be found at/near the first target, continue to drill 8¹/₂" directionally to about 5,260 m MD, (about 4,880 m TVD) Maximum inclination will be in the order of 40°. TD well at/near 5260 m MD.
- 14. Circulate well clean, replace mud by water, log well and make any other scientific measurements required.
- 15. Perform hydraulic tests which will include water injection and production testing.
- 16. Lay down drill pipe and drill collars. Clean mud tanks and release rig.





European Union European Regional Development Fund





PLANNED DRILLING PROGRESS EG-1 Drilling 26" Clean 26" Hole - Run 20" Casing - Cement - Install BOP Drilling 17 1/2" Clean 17 1/2" Hole - Log - Run 13 3/8" Casing - Cement - Install BOP Drilling Depth [m] Drilling 12 1/4" Clean 12 1/4" Hole - Log - Run 9 5/8" Casing - Cement Drilling 8 1/2" Days

Figure C2: Estimate of drill time for the well EG-1 to a max. depth of 5,260 m (MD)







Drilling Fluids

Water based drilling muds will be used at all times, unless, due to the need to ensure the safety and stability of the well, it is not reasonably practicable to do so. The precise materials to be used in the drilling muds, for example the polymers, have not yet been finalised. The drilling muds will not include barite or chloride additives, unless barite has to be used as a last resort as a weighting agent. In the event that troubled clay formations are drilled, 3-7% of KCI may be added.

The drilling fluids programme has been outlined by wellbore section as follows:

- 26" section A viscous fluid (spud mud) will be required in this section of the well to adequately transport drill cuttings to the surface. A flocculated bentonite drilling fluid should be inexpensive, environmentally safe and adequate to do the job. Spud mud normally consists of some 40 to 60 kg/m³ bentonite in fresh water. The pH should be maintained at 9 to 10 with caustic soda.
- 17¹/₂" section The fluid for this section is likely to be a polymer drilling fluid. If clays (kaolin) are encountered, KCl can be added to the system. The same fluid used on the 26" section will be diluted with fresh water and "broken over" to a polymer mud. Chemicals, which function as protective colloids in the drilling mud, will be added. PH values should be maintained in the 9 to 10 range for corrosion resistance.
- 12¼" section This section of the well will continue with a polymer based drilling fluid. The same fluid used on the previous section will be used for the 12 ¼" hole. Corrosion inhibitors and a lubricant will have to be added to reduce torque and drag in the well below about 2,000 2,500 m MD (from experience). The mud density shall be maintained below 9.0 ppg, this means the solid content has to be kept low. PH values should be maintained in the 9 to 10 range for corrosion resistance.
- 81/2" section After the 9 5/8" casing has been run and cemented, the fluid in hole will be displaced with an HT polymer mud. Fluid is mixed with thermally stable filtration control polymers, which have been tested in the lab and proven to be non-damaging for use in the reservoir zone. Air or water-based mud coolers will have to be integrated into the mud system once the surface return mud temperature exceeds about 65° C, both for safety and mud chemistry reasons; all additives will need to be suitable for high temperature use. The mud density shall be maintained clearly below 9.0 ppg, this means the solid content has to be kept low. PH values should be maintained in the 9 to 10 range for corrosion resistance.

Corrosion inhibitors and a lubricant will have to be added in this section to reduce torque and drag in the well. This may present a disposal problem as high temperatures generally require mineral based lubricants.

If severe losses or seeps are encountered, this section may be drilled with fresh water utilizing NaCl salt for the weighting fluid if required to control fluid flows from the formation.







At TD the fluid will be removed, a wellbore clean-up will be performed and the well will be filled with inhibited fresh water (or NaCl brine if required for density).

Samples of the chippings will be collected every 5 metres and will be washed, dried and stored in sample boxes. The samples will be visually inspected.

Cementing

There are three main cementing operations required on the EG-1 wellbore during the wellbore construction and drilling phase, not considering the 30" conductor casing. Each operation has a unique set of requirements and the precise procedures and material requirements will be modified to actual wellbore conditions after pilot testing and wellbore parameters become evident.

If the well is losing fluid, a lost circulation cementation shall be applied, if possible immediately following the drilling of the critical zone.

- 20" casing The cement volume requirement is estimated at 55 m³ including an excess of approximately 30%. Using inner-string cementing techniques, the cement will be pumped until good cement is observed on surface, then the displacement will be pumped from that point so that a minimum volume of excess cement is circulated to the tanks. Cement excess should be calculated by percent of hole size enlargement, not percent of cement volume. Class "G" cement can be used on this string; the thermally isolating cement will have a density in the range of 1.30 1.92 kg/l. If the top of cement drops back during curing, the annulus will be topped up using tremie pipes.
- 13³/₈" casing The calculated volume is about 125 m³ assuming the cement top is on surface and an excess of about 25% is required. The casing shall be cemented all the way from bottom to surface. Once the caliper logs have been ran across this interval, it will be decided how much excess of this amount will be pumped to account for washouts and cement losses in the loss zones. A lightweight cement based on Class "G" cement, with a density of not more than 1.40 g/cm³, is recommended for this section. If the top of cement drops back during curing, the annulus will be topped up using tremie pipes.
- 95%" casing This casing needs to be cemented from the shoe at ~4,000 m to a depth of 800 m below surface. The calculated cement volume is 117.5 m³, not including the volume of the shoe joints or any excess. Once the logs have been run across this interval, it will be decided how much excess of this amount will be pumped to account for washouts and cement losses in the loss zones. The cement chosen should be reduced in density (aiming at a density between 1,25 to 1,35 g/cm³) and fibres may be added to minimize cement losses. Cementing of this section will be carried out in two stages using a stage collar in combination with a casing annulus packer run at a depth of about 2,400 m.

For 13³/₈" and 9⁵/₈" cementing the displaced drilling mud and spacer fluid will be returned to the surface for reuse wherever possible or will be disposed of as extractive waste.





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Drilling Fluids Cleaning System

It is anticipated that EGL will be using a Bentec 450 Eurorig to drill the first well. The drilling fluid and arisings will be cleaned and separated using the mechanical solids-control equipment on the drilling rig:

| Number of mud pumps | 3 x 1,200 KW |
|---------------------------|-----------------------|
| Active mud tanks capacity | 185 m3 |
| Shaker tables | 3 x single elliptical |
| Desander | 1 x 3 x 10" cones |
| Desander capacity | 5,678 l/min |
| Desilter | 1 x 20 x 4" cones |
| Desilter capacity | 3,800 l/min |
| Centrifuge | 1 (no spec) |

Drill cuttings will be separated from the drilling mud at the surface as far as reasonably practicable, so that the maximum amount of drilling mud can be reused both on site. The overflow from the solids control equipment will be dumped directly into the 400 m^3 cuttings pit, where the solids will be allowed to settle.

The cuttings pit may need to be emptied during the drilling programme and the material within the pit will need to be either disposed off site or recycled.







APPENDIX D – Contract Terms and Conditions (LOGIC General Conditons of Contract for Services On and Off Shore, Edition 4, February 2019)

These are the Terms and Conditions which, in conjunction with Part C of this document, and Schedules 3 and 4 of the completed tender submission, will form the contract between EGL and the successful tenderer.

See separate attachment

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