

**Partial Contract concluded on the basis of the Framework Agreement signed on
12 October 2016 with the title:**

**Utilization of foreign experience in the siting process for a deep
geological repository for radioactive waste in the Czech Republic**

between

CONTRACTING PARTIES

Client: **Česká republika – Správa úložišť radioaktivních odpadů**

Registered office: Dlážděná 6, 110 00 Praha 1, Czech Republic

Represented by: JUDr. Jan Prachař, Managing Director

ID: 66000769

Banking details:

Name of Bank: ČNB, Na Příkopě 28, Praha 1

Account No.: 35-64726011/0710

Not a payer of VAT

(hereinafter referred to as the “**Client**”) and

Name of company: **Posiva Oy (lead party) in a consortium with Saanio & Riekkola Oy
(from 31 August 2018 onwards, the company name is A-Insinöörit Civil Oy)**

Registered office: Olkiluoto, FI- 27160 Eurajoki, Finland

Represented by: Janne Mokka

ID: 1029258-8,

Tax ID: FI10292588,

Banking details:

Name of Bank: Nordea (NDEAFIHH)

Account No.: FI 281660 3001 1003 98

(hereinafter referred to as the “**Supplier**”)

(hereinafter both referred to as the “**Contractual Parties**”)

The Contractual Parties hereby conclude the following Partial Contract (PC) in accordance with the provisions of Article 5 and in the format of Annex No 4 of the Framework Agreement.

Utilization of foreign experience in the siting process for a deep geological repository for radioactive waste in the Czech Republic

| | |
|-------------------------------|-------------------------------------------------------------------------------------------------------------|
| Name of the Partial Contract: | State-of-the-Art -study of foreign concepts of engineered elements in DGR |
| Area of Services: | vii. the assessment and/or development of procedures and methods for the development of engineered barriers |
| ID of Services: | SO2016-120-19 |

| | Function | Name | Date | Signature |
|-----------------------------------------------------|-----------------------------------------|----------------------|-----------|-----------|
| Client approved for chapter 1 | Project Manager | Xxxxx xxxxxxxxxxx | 12.7.2021 | |
| Compiled by | Project Manager of the Partial Contract | Xxxxx xxxxxxxxxxx | 12.7.2021 | |
| Partial Contract approved by the Client | Managing Director | Jan Prachař | 12.7.2021 | |
| Supplier approved - project manager | Project Manager | Xxxxxxx xxxxx | 3.8.2021 | |
| Supplier approved - manager of the partial contract | Project Manager of the Partial Contract | Xxxxx xxxxxxxxxxx | 12.8.2021 | |
| Partial Contract approved by the Supplier | Sales Director, Posiva Oy | Mika Pohjonen | 9.8.2021 | |
| | Vice President, A-Insinööri Civil Oy | Xxxx xxxxxx | 11.8.2021 | |
| | Managing Director, Posiva Solutions Oy | Mika Pohjonen | 9.8.2021 | |

Note: This Partial Contract (PC) has been concluded in compliance with the conditions of a Framework Agreement (FA) signed on 12 October 2016 entitled: "Utilization of foreign

experience in the siting process for a deep geological repository for radioactive waste in the Czech Republic”.

1 CLIENT’S ASSIGNMENT

1.1 Report focusing on buffer, backfill, plugs, closure and other long-term safety relevant construction elements in deep geological repository

The report compiles State-of-the-Art descriptions of buffer, backfill, closure, plugs and other long-term safety relevant construction elements (e.g. rock bolts, grouting, but not the canisters) in the deep geological repositories (DGR) for SNF in selected six countries, and compares the differences in the designs of components and other construction elements, their requirements, and rationale for their selection (e.g., in terms of performance and technical feasibility). The report should focus also on the backfill of the disposal chambers where other radioactive waste (high and intermediate) will be disposed, if any of the above-mentioned countries supposed to locate the repository for SNF and other radioactive waste in the same underground complex.

Selection of repositories in countries considered are chosen due to their crystalline environment, but also repositories in countries in other types of rock are considered in case they have relevance for the crystalline environment. Only countries at an advanced stage of repository programmes are included. The countries that could be considered are e.g. Finland, Sweden, Canada, South-Korea, China, France, Switzerland, and Belgium.

The main purpose of the PC is to compile descriptions of the buffer, backfill, closure, plugs and long-term safety relevant construction elements from six countries into a single document so that the designs, requirements, and rationale for the requirements can be systematically compared and reasoning for the differences evaluated to support the decision making of SÚRAO in developing an optimal repository design. The subject of this PC is related to PC08 and PC17. The activity will be divided into two work packages (reporting and workshop) and several stages to assure that the final report fulfils the Client’s needs.

WP1a: Report scope and TOC (setting up boundaries for the assessment)

In WP1a, the report scope and table of contents (TOC) for the report will be defined. State-of-the-Art data from the preliminary list of countries (and beyond) will be screened and a decision is made between the Client and the Supplier on which 6 countries to include in further evaluation, based on the data found and its quality (taking into account the relevance for the Client).

The description of the components (buffer, backfill, closure and plugs) in the report will include the type of material, the material’s expected performance, or alternatively the requirements for the behaviour and their rationale, the state of the material (e.g. water content, dry density) and its rationale, dimensions, production technology and its rationale, and technology for placing the barrier and its rationale.

WP1b Draft of one chapter of the technical report (one country)

In WP1b a draft of one chapter (case example of one country, Finland) is prepared. Before proceeding into descriptions of other countries, the Client’s comments are requested, and the chapter edited accordingly.

WP1c Draft of the technical report (description of the rest of the countries, comparison of the designs)

On the basis of agreement with the Supplier and Client in WP1b, a draft of the technical report will be drawn, including a description of the rest of the five countries and an evaluation chapter

on comparisons of the designs. A draft of the report shall be handed over to SÚRAO's comments.

WP1d: Final version of technical report

Supplier shall, subsequently, after the Client's comments, draw up a final version of the technical report and submit it to the Client, who will then append a final statement to it.

WP2: Workshop

The WP2 consists of a half-day workshop organised between the Client and the Supplier, where the findings of the WP1 will be presented. The workshop will / can be open to SÚRAO's subcontractors. The execution of WP2 is optional and decided by the Client during course of the work.

The Client nominates the following person as the Project Manager for the Partial Contract (PC): Lucie Hausmannová, e-mail: hausmannova@surao.cz. The Supplier will communicate directly with this person.

The Client requires the Supplier to nominate those PC participants that will be financed from this Partial Contract.

Changes of persons nominated either by the Client or the Supplier are permitted without the requirement for amending the PC. In case of a change of Project Manager either on the side of the Client or the Supplier, the Project Manager of the one party shall be required to notify his/her counterpart in writing of the change.

1.2 Required Services deadlines

„The beginning of the PC is immediately after its publication in Register of Contracts as stated in Article 3 and estimated duration of the PC is 5 months.“

1.3 Estimated labour intensity and/or its limitation

The Client estimates that the work involved in the PC will amount to 388 hours. The division of the hours is given in Table 1. The point WP2 (workshop) in Table 1 is optional (see Article 1.1).

Table 1: Personnel hours by category

| Point in the PC | Activities | Estimated labour intensity [hours] |
|-----------------|------------------------------------------------------------------------------------------------------|------------------------------------|
| WP1a | Report scope and TOC (selection of countries) | 40 |
| WP1b | Draft of one chapter of the technical report (case Finland) | 60 |
| WP1c | Draft of the technical report (description of rest of the five countries, comparison of the designs) | 200 |
| WP1d | Final version of technical report | 24 |
| WP2 | Preparation for one half-day workshop and workshop (2 experts) | 24 |

| | | |
|--------------|---------------------------|------------|
| 1-2 | Managing of the PC and FA | 40 |
| Total | | 388 |

1.4 Specific requirements concerning the organisation of the Services

The Client requires support from Posiva.

2 CONFIRMATION / MODIFICATION OF THE ASSIGNMENT OF SERVICES BY THE SUPPLIER

2.1 Scope of the Services and technical specification

The Supplier shall perform the assignment of the Services set out by the Client in Article 1.1.

2.2 Fulfilment dates

The Supplier suggests the time schedule of the Services provided to the Client as stated in Article 1.2.

2.3 Price of the Partial Contract

The Supplier states herein the price limit of the Partial Contract which is based on the labour intensity determined in accordance with Article 1.3 of this document and the rates specified in the FA. Based on the preliminary allocation of working hours to the various experts and their hourly rates, the price estimate (exclusive of travel costs) is set at 59 370 €. The Supplier shall be required to justify all the expenses incurred. As a minimum, consultation at the Client's premises will incur travelling expenses.

2.4 Organisation of the Services

The Supplier shall set out the various activities corresponding to the work schedule (Article 1.2), the persons involved in those activities and their roles in Table 2. When determining labour intensity, the Supplier shall take into account the limit set by the Client in Article 1.3 of the Partial Contract (388 hours).

The Supplier shall set out the organisation and accountability of the persons involved in the Partial Contract in Table 2. Estimated hours per category are listed in Table 3.

Table 2. Personnel and roles in the activities set out in the Partial Contract.

| Name | Role/position | Knowledge areas relevant to this PC |
|--------------------|---------------|----------------------------------------------------------------------------------|
| | | |
| Xxxxx xxxxxxxxxxxx | Adviser | Buffer and backfill, Project Management of PC |
| Xxxxx xxxxx | Adviser | Buffer, backfill, closure, plugs long-term safety relevant construction elements |
| Xxxxxx xxxxx | Adviser | Requirements, Design basis |
| Xxxx xxxxxxxx | Adviser | Foreign concepts |

| | | |
|---------------|---------|--------------------------|
| Xxxxxxx xxxxx | Adviser | Project management of FA |
|---------------|---------|--------------------------|

Table 3: Personnel hours by category

| Category | Hours | % | Cost |
|----------|-------|-----|--------|
| Cat 2 | 388 | 100 | |
| TOTAL | 388 | 100 | 59 370 |

2.5 Risk identification

The risk identification, assessment and management procedures are set out in Annex no. 3 of the FA. The time schedule depends to a great extent on the availability of the required information in the English language.

3 CONCLUSION OF THE PARTIAL CONTRACT

The Articles 1 and 2 of this Partial Contract are valid in full.

The Partial Contract will be concluded in line with Article 5 of the FA.

This Partial Contract comes into force on the date it is signed by both Contracting Parties and comes into effect by the date of its publication according to Section 6(1) of the Act No. 340/2015 Coll, on the Register of Contracts"