

**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: RNDr. Jiří Slovák, Managing Director

ID: 66000769,

Banking details:

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

Account No.: xxxxxxxxxxxxxxxxx

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**

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.: xxxxxxxxxxxxxxxxxxxxx

(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:	<b>Utilisation of POSIVA experience in the preparation of an R&amp;D plan for the engineered barrier system in a deep geological repository for radioactive waste in the Czech Republic</b>
Area of Services:	iii. R&D of engineered barriers
ID of Services:	2016-120-04

	Function	Name	Date	Signature
Client approved for chapter 1	Project Manager	Ilona Pospíšková		
Compiled by	Project Manager of the Partial Contract	Lucie Hausmannová		
Partial Contract approved by the Client	Managing Director	Jiří Slovák		
Supplier approved - project manager	Project Manager	Kimmo Lehto		
Supplier approved - manager of the partial contract	Project Manager of the Partial Contract	Marjut Vähänen		
Partial Contract approved by the Supplier	Sales Director, Posiva Oy	Mika Pohjonen		
	Managing Director, Saanio & Riekkola Oy	Timo Saanio		
	Managing Director, Posiva Solutions Oy	Mika Pohjonen		

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 Requirements concerning the scope and technical specifications**

The main purpose of this agreement is to suggest improvements to the current "R&D plan for an engineered barrier system (EBS) intended for the future Czech DGR" using the knowledge acquired by Posiva. In addition, the topic of other artificial materials (OAM) to be used in the repository will be discussed.

EBS refers to the buffer, backfill and plug.

OAM refers to construction materials for the floors, lining, grouting, etc.

The transfer of Posiva's knowledge will take place in the following areas:

#### **1.1.1 Analysis of the current state of SÚRAO's research activities concerning the EBS**

The Client shall provide information (in the form of a report) on past, current and future R&D activities concerning the EBS. Further, the Supplier shall provide their comments on the EBS plan and propose suggestions for, and participate in the implementation of improvements. The Supplier's outputs will serve as input material for consultation that will take place at the Client's premises.

#### **1.1.2 Presentation of the current state of the POSIVA EBS (1- to 2-day workshop)**

The Supplier shall provide information on past, current and future R&D activities concerning the POSIVA EBS. The information will be presented by the Supplier in the form of 1- to 2-day workshop. Such workshops will be open to SÚRAO's various subcontractors (e.g. ÚJV, CTU, TUL etc.). The following topics shall be covered:

- a) The EBS concept – the evolution of the POSIVA EBS concept from the very outset of R&D activities on this topic to the present, including the various important milestones. The workshop should focus particularly on the selection of the disposal concept (horizontal versus vertical) and the design thereof.
- b) EBS components (current state) – a detailed description of each component of the EBS including the reasons for the selection of the design thereof. A description of the materials used in each component.
- c) EBS requirements – a description of the various requirements and the reasons for the identification of the said requirements.
- d) Requirements concerning the materials used in the EBS – a description of the requirements and the reasons for them.
- e) Installation of all the components of the EBS – the technology required for EBS installation. How to ensure that all the components are installed as planned. Are any in-situ quality inspections planned with respect to the installed components?
- f) OAM – description
  1. where is it planned that such materials will be used?

2. for how long (permanently versus temporarily)?
  3. which materials? A description of the materials and requirements concerning the selection thereof.
- g) Lessons learned from the whole of the EBS design process and the design/use of OAM

#### 1.1.3 Technical report on SÚRAO's R&D plan for the engineered barrier system (EBS) of the future Czech DGR

On the basis of the activities undertaken under Article 1 of the PC, the Supplier shall draw up a draft of a technical report to be entitled the "R&D plan for the engineered barrier system in the Czech deep geological repository". The major part of the report shall focus on the definition of a short-term plan (5-year duration) along with the additional outline of a long-term plan. A draft of the report shall then be handed over to SÚRAO for comments, which will subsequently be discussed between the two contractual parties (via correspondence or at face-to-face meetings depending on the level of seriousness and/or complexity). The Supplier shall, subsequently, draw up a final version of the technical report and submit it to the Client who will then append a final statement to it.

The Client nominates the following person as the Project Manager for the Partial Contract (PC): Ms. xxxxxxxxxxxxxxxx, e-mail: xxxxxxxxxxxxxxxxxxxxx. The Supplier will communicate directly with this person, with correspondence copied on all occasions to Ms xxxxxxxxxxxx, e-mail: xxxxxxxxxxxx and Ms. xxxxxxxxxxxx xxxxxxxxxxxxxxxx

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

Milestone 1: Report on the current state of SÚRAO research activities concerning the EBS (provided by the Client)	T0+4 M
Milestone 2: Consultation at the Client's premises, <ul style="list-style-type: none"> <li>– Analysis of the current state of SÚRAO research activities concerning the EBS</li> <li>– 1- to 2-day workshop for the presentation of the current state of the POSIVA EBS</li> </ul>	T0+7 M
Milestone 3: Draft of a technical report (Article 1.1.3) by the Supplier and submission to the Client	T0+10 M
Milestone 4: Comments on the technical report from the Client	T0+12 M
Milestone 5: Final version of the technical report drawn up by the Supplier and submission for the Client's final statement	T0+14 M

Milestone 6: Final statement from the Supplier	T0+16 M
--	---------

### 1.3 Estimated labour intensity and/or its limitation

The Client estimates that the work involved in the PC will amount to 500 hours.

Point in the PC	Activities	Estimated labour intensity [hours]
1	Analysis of the current state of SÚRAO research activities concerning the EBS	100
2	Presentation of the current state of the POSIVA EBS (1 - 2 workshops)	
2a	Preparation for the workshop(s)	100
2b	Workshop at the Client's premises	80
3	Draft of the technical report	100
4	Editing of the technical report	30
5	Final version of the technical report	30
1-5	Managing of the PC	60

### 1.4 Specific requirements concerning the organisation of the Services

The Supplier shall propose the location and timing of those meetings with the Client's experts deemed necessary for the fulfilment of the objectives of the Partial Contract. Communication via telephone, email and videoconferencing will be acceptable provided the security of the information disclosed is ensured.

## 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. The Client shall provide sufficient documentation describing the Client's research activities concerning the EBS (as described in Article 1.1.1) to the Supplier in the English language. The approach via which the Supplier participates in the implementation of the improvements (as outlined in Article 1.1. of the Partial Contract 08) shall consist of consultancy, the presentation of the Supplier's knowledge and training activities.

### 2.2 Fulfilment dates

The Supplier shall suggest the time schedule of the Services provided to the Client as stated in Article 1.2. The time schedule shall depend on the time at which the information to be provided by the Client is delivered to the Supplier.

The Supplier may suggest changes to the partial deadlines; however, the final deadline shall respect the requirements of the Client. If delays occur with respect to the delivery of information to the Supplier, such delays must be taken into account in the deadlines and overall schedule.

## 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 2.4 of this document and the rates specified in Article 4.3 of 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 68 326 €. 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, the persons involved in those activities and their roles in Table 1. When determining labour intensity, the Supplier shall take into account the limit set by the Client in Article 1.3 of the Partial Contract 08 (500 hours).

The Supplier shall set out the organisation and accountability of the persons involved in the Partial Contract in Table 1. Estimated hours per category are listed in Table 2.

Table 1. Personnel and roles in the activities set out in the Partial Contract.

Name	Role/position	Knowledge areas relevant to this PC
Marjut Vähänen	Project leader	Long-term safety of EBS
Petri Koho	Expert	Design of the plug
Taina Karvonen	Expert	Construction materials
Sirpa Kumpulainen	Expert	Buffer & Backfill
Kimmo Lehto	Project Management	Project Management

Table 2: Personnel hours by category

Category	Hours	%	Price/€
1			
2	384	77	54835
3	116	23	13491
4			
5			
Total	500	100	68326

## **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**

Articles 1 and 2 of this Partial Contract are valid.

The sub-project is subject to the approval of those persons authorised with respect to contractual matters pursuant to Article 1.3 of the FA.

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

This Partial Contract becomes valid and comes into force on the date of its signing by authorised representatives of the two Contractual Parties.