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DOCUMENT(S) DIFFUSE(S)

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TECHNICAL SPECIFICATION TO THE FEEDBACK FROM HTR

DESTINATAIRES		***Objet***	***Nb exemplaires*** Document(s)	Bordereau(x)
PVEI	D. BESSON	ATT	1	1
NZ	D. HITTNER / G. BRUNA	ATT	2	2
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FRAMATOME ANP

Advanced Projects and Decommissioning

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Technical specification related to the feedback from former German HTR

TITRE ABREGE : **RAPHAEL TECHNICAL SPECIFICATION TO THE FEEDBACK FROM HTR**

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Contents

1. INTRODUCTION

As part of the sixth Frame work Programme – RAPHAEL's IP (**R**e**A**ctor for **P**rocess, heat, **H**ydrogen **A**nd **EL**ectricity generation-Integrated Project), this technical specification defines the work to be done by RWTH (Name of the subcontractor): Rheinisch-Westfaeliches Technische Hochschule at Aachen in Germany.
The work to be performed consists of the collection of relevant information on results from former German HTR R&D programmes concerning heat exchangers, hot gas valves and circulators.
Special aspects on tribology will be included. FZJ, as RAPHAEL's IP Partner 12, will be responsible for placing the sub-contract and Framatome ANP, as RAPHAEL's IP Partner 01, will be responsible for the commercial, contractual and technical aspects.

2. REPORTS AND INPUT DATA

The applicable report is as follows:

- FP6 RAPHAEL Integrated Project – Annex I – Description of work, November 30th, 2004: contract n°516508 (FI6O), domain"Other Activities in the Field of Nuclear Technologies and Safety",

3. DEFINITION OF THE WORK TO BE DONE

3.1 General definition

The main objective is to recover specific knowledge gained by RWTH in the frame of Very High Temperature Reactors.

3.2 Definition of the tasks

The following tasks have to be done by the subcontractor:

- to gather the feedback experiences about design, construction and operation at high temperature (850-1000°C) of heat exchangers and hot gas valves,
- to gather the feedback experiences about design, construction and operation of blower or gas circulators including bearings,
- to gather the feedback experiences about contact with graphite, eventually ceramics and tribology at high temperature.

The experience to be gathered is the one which had been developed or acquired by RWTH on the VHTR R&D. The detailed references of the gathered feedback shall be précised and their technical applicability or interest for the RAPHAEL IP shall be developed. Detailed drawings and materials shall be given as part of the feedback illustration.

3.3 Meeting

The sub contractor will be involved in a meeting in France or in Germany to present its results.

4. DELIVRABLE

Three Deliverables including relevant drawings will be elaborated by the subcontractor and submitted for acceptance to FANP. The subcontractor shall take into account the FANP comments and shall up-date the corresponding deliverables.

The title of each Deliverable will be:

1- Past experiences from German HTR R&D programmes concerning heat exchangers and hot gas valves as part of AVR (Arbeitsgemeinschaft Versuchs Reaktor). The Deliverable identification will be: D-CT1.2-1/4,

2- Past experiences from gas cooled reactor useful for gas circulator of RAPHAEL as part of AVR. The Deliverable identification will be: D-CT2.2-1/2,

3- Past experiences from gas cooled reactor useful for tribology of RAPHAEL as part of AVR. The Deliverable identification will be: D-CT3.2-1/3.

4.1 Quality assurance

The subcontractor is responsible for the quality assurance of the work performed for the tasks as listed in the paragraph 3.2 of this specification, following the internal quality assurance programme of his organisation.

4.2 Corresponding members

The corresponding members of the subcontractor will be:

- Werner von Lensa from FZJ will be responsible for placing the contract (w.von.lensa@fz-juelich.de) for contractual and financial aspects,
- Technical aspects: M. D. Besson from Framatome ANP (daniel.besson@framatome-anp.com)

The subcontractor will nominate associated corresponding members from its company.

4.3 Time schedule

- Meeting participation : during the year 2006,
- Delivery of the first issue of the three Deliverables: January 2006,
- Delivery of the final issue of the three Deliverables: March 2006.

4.4 TAKING OVER

After the approval of the three Deliverables from FZJ and Framatome, the corresponding invoice can be sent to FZJ.