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|  |  INTERNATIONALEUROPEAN COMMISSION SCIENCE AND DIRECTORATE-GENERAL 'Research' TECHNOLOGY CENTER |   |

**CONTACT EXPERT GROUP on SEVERE ACCIDENT MANAGEMENT (CEG-SAM)**

*To:* B. Rhode (EC, DG RTD N-3) *Advice no.:* A-09

*Project code:* # K-1265 *Date:* 7 June 2005

*Signatures:* M. Hugon (Chairman) and P.Hofmann (Secretary)

*Linked meeting:*  CEG-SAM meeting, Cologne, 28 February - 1st March 2005.

*Attending members:* Adroguer (IRSN); Allelein (GRS); Altstadt (FZR); Azarian (Framatome-ANP); Bottomley (JRC/ITU); Journeau (CEA); Koch (RUB); Marguet (EDF); Oriolo (University Pisa);

Stuckert, Tromm (FZK).

*Copies:*  CEG-SAM members; L. Samaniego (EC, DG RTD N-3), S. Webster (EC, DG RTD J-4), L.Tocheny (ISTC, Moscow)

\* Subject: Proposal of “Experimental study of the processes at the corium melt retention in the reactor pressure vessel” -- ISTC Project # K-1265 (INVECOR)

\* EU Collaborators: - IRSN, CEA, FZK, FZR, University of Pisa, GRS, ITU.

 - Confirmation of new collaborators is on going.

\* Documents: - Revised Work Plan of project #K-1265 “Experimental study of the processes at the corium melt retention in the reactor pressure vessel (Experimental study of core melt in-vessel retention)”. Affiliated State Enterprise “Institute of Atomic Energy” of the Republican State-Owned Enterprise “National Nuclear Center” of the Republic of Kazakhstan, Kurchatov, EKO, Kazakhstan

\* Advice: - **EU funding recommended (priority 1)**

\* Justification: - The group strongly supports the execution of this project aimed at experimentally investigating the in-vessel phases of a severe accident, including the in-vessel retention and the vessel melt through. This team has developed unique experimental capabilities enabling the heating of large masses of prototypic corium (containing natural uranium oxide) within a vessel mock-up and to provide external cooling. Tests will comprise oxidic and metal-oxide melts in order to study a large range of envisioned configurations. Of particular interest are the high-quality measurements and material analysis possibilities that should facilitate understanding of the results. The project should promote comparisons with LIVE experiments carried out by FZK with simulant materials and the small scale prototypic materials experiments performed within the ISTC METCOR (#833.2) project. It will also serve to validate different CIS and EU Severe accident codes, in particular the European ASTEC code that is under improvement and validation for PWR and VVER designs within the SARNET SA Network of Excellence.

\* Recommendations: Strong links with the experts in charge of the METCOR project shall be promoted.

\* Comments: - This project will have close links to the EU SARNET Network of Excellence (6th FWP) and to the German LIVE Programme

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| Dissemination level : RE: restricted to EC, CEG-SAM members, ISTC and CIS beneficiaries |