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|  | INTERNATIONAL  EUROPEAN COMMISSION SCIENCE AND  DIRECTORATE-GENERAL 'Research' TECHNOLOGY CENTER |  |

**CONTACT EXPERT GROUP on CORIUM MANAGEMENT**

**(CEG-CM)**

To: ISTC / D.Gambier (EC RTD-05) Advice no.: A-02

Project code: # 1648 Date: 2nd October 2002

Signatures: A.Zurita (Chairman) and P.Hofmann (Secretary)

Copies: -Adroguer (IRSN); Altstadt (FZR); Azarian, Fischer (FANP); Bottomley (JRC/ITU); Cognet (CEA/DEN/DSNI); Kymäläinen (Fortum); Marguet (EDF); Miassoedov, Stuckert, Tromm (FZK); Oriolo (Univ. Pisa); Unger (RUB)

- Bellemin (EC RTD-05); Forsström (EC RTD-J.4); Tocheny (ISTC, Moscow)

\* Subject: Proposal of “Examination of VVER Fuel Behavior under Severe Accident Conditions. Quench Stage ” -- ISTC Project # 1648

Documents: Work Plan of ISTC project #1648, Annex 1 (36 pages) – revised version of April 2002, State Scientific Center, “Research Institute of Atomic Reactors”, Dimitrovgrad-10

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

\* Justification: The group strongly supports the execution of this project, mainly aimed at investigating physico-chemical effects of fast cooling (quenching) of high burn-up VVER fuel rod segments (separate-effects tests; project stage 1) and of an unirradiated VVER fuel element bundle (large-scale integral experiment; project stage 2) from high temperatures on fuel rod degradation. Of particular interest is the impact of core reflood conditions on the hydrogen production and release of gaseous fission products.

\* Recommendations: Emphasis should be put on more realistic severe accident conditions,

e.g. the final test matrix for the tests with spent fuel rod segments should reflect more prototypic high temperatures at onset of quenching. For comparison reasons a few tests with fresh fuel rod segments have to be conducted.

\* Comments: - A project development grant was already given to this project.

- This project is linked to various current EU projects, i.e. EURSAFE, COLOSS, ENTHALPY and LACOMERA, as well as to the Phébus FP programme.

- Confirmed EU collaborators: FZK and IRSN.

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| Dissemination level : CO  PU: public  RE: restricted to EC and a group specified by the CEG-CM members  CO: confidential, only for EC, CEG-CM members and ISTC |

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October 2002 CEG-CM / A-02