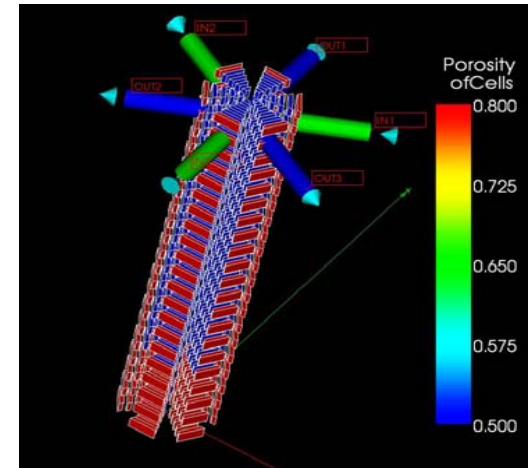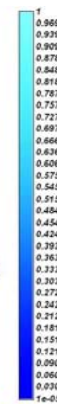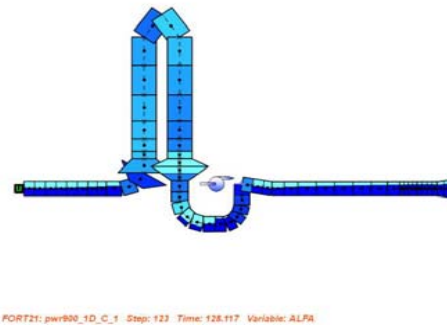# CATHARE Users' CLUB
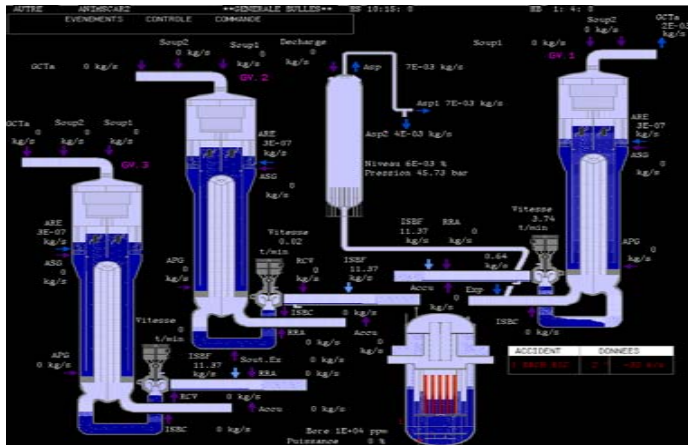
GRENOBLE – France, June 3, 4 and 5 2009

The CUC is the opportunity :

- **For all the users : to show their works on various applications and to share experience on the CATHARE nuclear reactor safety code**

- **For the CATHARE team : to present features and functionalities of the new version of the CATHARE code**

Informations: CEA/DEN/DER/SSTH, gilles.lavialle@cea.fr

Wednesday June 3rd
Overview of the CATHARE V2.5 new features
CATHARE use by foreign organisations

9:00	Registration		
9:30	Welcome		
9:45	Introduction of the club	15'	CEA
10:00	CATHARE team activities on CATHARE V2.5 code	30'	CEA
10:30	Break		
11:00	Use of CATHARE at ENEA		
	o Validation of CATHARE V2.5 against the PERSEO tests	30'	ENEA-Italia
11:30	Use of CATHARE at University of PISA	30'	PISA-Italia
	o Simulations of the OECD/NEA PSB-VVER Project Tests		
	o Uncertainty Method and Applications with CATHARE2 (BEMUSE Project)		
12.00	Lunch		

Wednesday June 3rd
CATHARE use by foreign organisations

Time	Topic		
14:00	**Use of CATHARE at VUJE**	30'	VUJE-Slovakia
	o Validation of CATHARE V2.5 on Oberhausen helium (EVO) loop		
14:30	**Use of CATHARE at INR**	30'	INR-Romania
	o Calculation of B9401 Test in the RD-14M Facility with CATHARE 2		
	o Air Ingress Applications with ICARE/CATHARE		
15:00	Use of CATHARE at BEL-V	30'	BEL-V-Belgium
15:30	*Break*		
16:00	**Use of CATHARE at NPIC**	30'	NPIC-China
	o Validation of CATHARE code against Bethsy test 3.4B".		
16:30	Use of CATHARE at KFKI-AEKI	30'	KFKI-Hungary
17:00	**Use of CATHARE at INRNE**	30'	INRNE-Bulgaria
	o CATHARE multi-1D modeling of single-phase vessel mixing in VVER-1000 for RIA analysis		
17:30	*Adjourn*		

Thursday June 4th
CATHARE use by foreign organisations and partners

9:00	Use of CATHARE at KURCHATOV institute	30'	KI-Russia
	o ICARE/CATHARE V2 simulation of a VVER-1000 large break LOCA scenario		
9:30	Use of CATHARE at BARC	30'	BARC-India
	o Simulation of Accident Scenarios for Indian Reactors using CATHARE/SUNSET		
10:00	*Break*		
10:30	Use of CATHARE at AREVA-NP	45'	AREVA-NP
11:15	Use of CATHARE at IRSN	45'	IRSN
12.00	*Lunch*		

Thursday June 4th
CATHARE use by partners
GUITHARE

Time	Title	Duration	Partner
14:00	Use of CATHARE at AREVA-TA	45'	AREVA-TA
14:45	Use of CATHARE at EDF	45'	EDF
	o Use of Cathare in safety studies		
	o Use of Cathare within simulation tools		
15.30	Break		
16:00	Use of CATHARE at CEA		
	o Uncertainty analysis with CATHARE	30'	CEA/SSTH
	o Coupling with CATHARE		
	✓ Existing and under development coupling strategies with CATHARE	15'	CEA/SSTH
	✓ HEMERA : A Highly Evolutionary Method for Effective Reactor Analysis	15'	CEA/SERMA
17:00	Adjourn		
19h30	dinner at the restaurant 55 (http://www.restaurantle55.com)		

9:00	Demonstration of the GUITHARE graphic user interface	30'	CEA
9:30	CATHARE 2 V2.5_2 : a single version and various concepts	20'	CEA/SSTH

- o 9:50   CATHARE application for Gas Cooled reactor
  - ✓ CATHARE2 use as a support to the GFR design   15'   CEA/SESI
  - ✓ Incidental and accidental transients of the coupling of a VHTR with a hydrogen plant   15'   CEA/SESI
- o 10:20   CATHARE application for Supercritical light water reactor   15'   CEA/SESI

10.35   *Break*

- o 10:50   CATHARE application for Sodium Fast-Breeder Reactor   20'   CEA/SESI

11:10	CATHARE-3: A new system code for thermal-hydraulics in the context of the NEPTUNE project	30'	CEA
11:40	Conclusions of the club	20'	CEA

- o Use of the code, requests of users, etc.

- o Futures versions of CATHARE 2, GUITHARE, CATHARE3

- o Discussion, remarks

12.00   Lunch
14.00   Adjourn