Profile LFR-27

BACCARA
FRANCE

GENERAL INFORMATION
NAME OF THE FACILITY: BACCARA
ACRONYM: Banc de Caractérisation d’Assemblages de Réacteurs Avancés
COOLANT(S) OF THE FACILITY: Water
LOCATION (address): CEA Cadarache building 728
OPERATOR CONTACT PERSON: David GUENADOU, CEA Cadarache 13108 Saint Paul lez Durance, research engineer, +33 4 42 25 47 64, david.guenadou@cea.fr

STATUS OF THE FACILITY
Start of operation (date): 2015

MAIN RESEARCH FIELD(S)
☐ Zero power facility for V&V and licensing purposes
☐ Design Basis Accidents (DBA) and Design Extended Conditions (DEC)
☒ Thermal-hydraulics
☐ Coolant chemistry
☐ Materials
☐ Systems and components
☐ Instrumentation & ISI&R

TECHNICAL DESCRIPTION
Description of the facility
The BACCARA facility is dedicated to the study of the fast neutron reactor fuel assemblies. The power of the pump is 115 kW. It can feed the experimental channel at a maximal flow rate of 250 m³/h. The water is deionized and can reach a temperature of 110°C and a pressure of 1.5 MPa. All those parameters are automatically controlled. Vibrations measurement or cavitation observation can be carried on with the windows located along the test section. The water chemistry (pH, boron…) is controlled by injection of the required products.
Acceptance of radioactive material
No

Scheme/diagram

FIG. 1. Scheme of the BACCARA facility

3D drawing/photo
FIG. 1. Schematic view of the BACCARA facility

Parameters table
Coolant inventory

| Power | 115 kW |

Test sections

<table>
<thead>
<tr>
<th>TS #1</th>
<th>Characteristic dimensions</th>
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<tbody>
<tr>
<td></td>
<td>3 m long</td>
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Static/dynamic experiment
Dynamic experiment

Temperature range in the test section (Delta T)
20-110°C

Operating pressure and design pressure
15 bar

Flow range (mass, velocity, etc.)
<250 m³/h

Coolant chemistry measurement and control (active or not, measured parameters)
Water chemical quality is controlled. Flow, temperature, pressure drop are measured. Locally velocity can be determined through windows by laser techniques.

Instrumentation

COMPLETED EXPERIMENTAL CAMPAIGNS: MAIN RESULTS AND ACHIEVEMENTS

PLANNED EXPERIMENTS (including time schedule)

TRAINING ACTIVITIES

REFERENCES (specification of availability and language)