Profile LFR-76

CORTEST

CHINA

GENERAL INFORMATION
NAME OF THE FACILITY: CORrosion TEst STand
ACRONYM: CORTEST
MEDIUM (COOLANT(S)) OF THE FACILITY: LBE/pure lead
LOCATION (address): CNPRI, Shenzhen, China
OPERATOR: CNPRI
CONTACT PERSON(S): Jiming Lin
(name, address, institute, function, telephone, email): China Nuclear Power Technology Research Institute (CNPRI)
0086-755-88617716
linjiming@cgnpc.com.cn

STATUS OF THE FACILITY
Start of operation (date): In operation 2016

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 main purposes of the CORTEST are: a) to develop oxygen control systems for regulating dissolved oxygen in liquid lead-bismuth eutectic (LBE); b) to evaluate measurement performance of oxygen sensors; c) to evaluate material corrosion performance; d) to evaluate material erosion performance.

The experimental device includes: lead-bismuth/pure lead ultra-high temperature static corrosion test device, lead-bismuth multi-function static corrosion test device, lead-bismuth dynamic corrosion test device.

Acceptance of radioactive material
No

Click here to enter text.
### Parameters table

<table>
<thead>
<tr>
<th>Medium (Coolant) inventory</th>
<th>LBE/pure lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>7kw</td>
</tr>
<tr>
<td>Test sections</td>
<td></td>
</tr>
<tr>
<td><strong>TS #1</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Characteristic dimensions</strong></td>
<td>Up to 36 specimens, equal flat plates of 60 x 20 x 1,5 mm³ size can be adapted</td>
</tr>
<tr>
<td><strong>Static/dynamic experiment</strong></td>
<td>Static/dynamic</td>
</tr>
<tr>
<td><strong>Temperature range in the test section (Delta T)</strong></td>
<td>150-700°C (550°C)</td>
</tr>
<tr>
<td><strong>Operating pressure and design pressure</strong></td>
<td>ambient</td>
</tr>
<tr>
<td><strong>Flow range (mass, velocity, etc.)</strong></td>
<td>maximum flow rate of 10 m/s</td>
</tr>
<tr>
<td><strong>Medium (Coolant) chemistry measurement and control (active or not, measured parameters)</strong></td>
<td>Active oxygen control and monitoring</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>Oxygen sensor, gas control systems, MX exchange systems</td>
</tr>
</tbody>
</table>
COMPLETED EXPERIMENTAL CAMPAIGNS: MAIN RESULTS AND ACHIEVEMENTS
Click here to enter text.

PLANNED EXPERIMENTS (including time schedule)
Click here to enter text.

TRAINING ACTIVITIES
Training activities are possible, availability allowing and after prior agreement under supervision of CNPRI Qualified staff.

REFERENCES (specification of availability and language)
No