Profile SFR-90

SSL-EMT

LATVIA

GENERAL INFORMATION

NAME OF THE FACILITY: Small Sodium Loop for EM pump Testing
ACRONYM: SSL-EMT
MEDIUM (COOLANT(S)) OF THE FACILITY: Sodium
LOCATION (address): LV-2169 Salaspils, Miera str.32, Latvia
OPERATOR: Institute of Physics University of Latvia (IPUL)
CONTACT PERSON(S): Imants Bucenieks, LV-2169 Salaspils, Miera str.32, Latvia, IPUL, Senior Researcher, +371 26407570, Imants.Bucenieks@lu.lv

STATUS OF THE FACILITY: Under Construction
Start of operation (date): 2019

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 facility SSL-EMT is a DN 54 mm liquid sodium loop. The loop is placed in a SS plate lined 240 m² hall especially designed for exploratory development of liquid metal equipment. A good protected control room foreseen. The facility operates with an inventory of 50 L of sodium at temperatures up to 350°C. The loop contains two permanent magnet electro-magnetic (EM) pumps for testing series and parallel connection of pumps. A test section is foreseen in the loop for thermo-hydraulic experiments, for engineering and operational development of components and instrumentation and for testing of different materials used in liquid sodium techniques. All components to be in contact with the liquid metal are made of stainless steel. The facility includes storage tank under argon cover gas, an expansion tank, a cold trap and a cooler. All components equipped with electrical heaters and thermal insulation. The operating status of the facility is monitored by thermocouples, pressure gauges, a Venturi tube, acceleration sensors and an electromagnetic flow meters.
Acceptance of radioactive material

No

Parameters table

| Medium (Coolant) inventory | Liquid sodium – 50 L |
### Power

<table>
<thead>
<tr>
<th>Test sections</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power</strong></td>
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<tr>
<td><strong>TS #1</strong></td>
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<tr>
<td><strong>Static/dynamic experiment</strong></td>
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<tr>
<td><strong>Temperature range in the test section (Delta T)</strong></td>
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<tr>
<td><strong>Operating pressure and design pressure</strong></td>
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<tr>
<td><strong>Flow range (mass, velocity, etc.)</strong></td>
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<tr>
<td><strong>Medium (Coolant) chemistry measurement and control (active or not, measured parameters)</strong></td>
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<tr>
<td><strong>Instrumentation</strong></td>
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### COMPLETED EXPERIMENTAL CAMPAIGNS: MAIN RESULTS AND ACHIEVEMENTS

### PLANNED EXPERIMENTS (including time schedule)


### TRAINING ACTIVITIES

Training activities should be agreed with IPUL for the operation of the experimental facilities under the supervision of IPUL qualified staff.

### REFERENCES (*specification of availability and language*)


