

## Profile LFR-78

### LELECO

### CHINA

#### GENERAL INFORMATION

NAME OF THE FACILITY	Lead-bismuth Eutectic Long-term Corrosion experimental facility
ACRONYM	LELECO
MEDIUM (COOLANT(S)) OF THE FACILITY	LBE
LOCATION (address):	CNPRI, Shenzhen, China
OPERATOR	CNPRI
CONTACT PERSON(S) (name, address, institute, function, telephone, email):	Jiming Lin China Nuclear Power Technology Research Institute (CNPRI) 0086-755-88617716 linjiming@cgnpc.com.cn

<b>STATUS OF THE FACILITY</b>	Under Design
Start of operation (date):	2019

<b>MAIN RESEARCH FIELD(S)</b>	<input type="checkbox"/> Zero power facility for V&V and licensing purposes
	<input type="checkbox"/> Design Basis Accidents (DBA) and Design Extended Conditions (DEC)
	<input type="checkbox"/> Thermal-hydraulics
	<input checked="" type="checkbox"/> Coolant chemistry
	<input checked="" type="checkbox"/> Materials
	<input checked="" type="checkbox"/> Systems and components
	<input type="checkbox"/> Instrumentation & ISI&R

#### TECHNICAL DESCRIPTION

##### Description of the facility

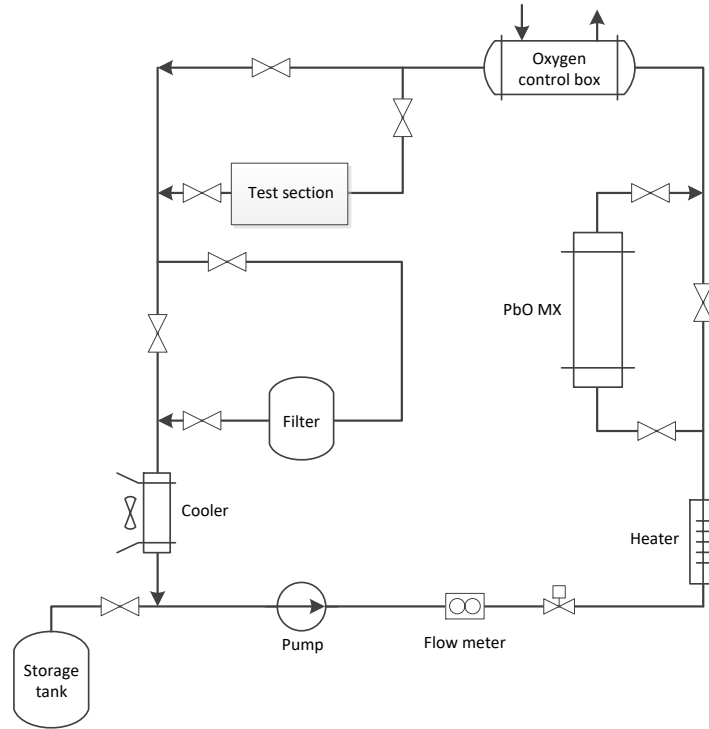
LOCOT is a forced-convection loop for long-term material test in flowing LBE which serves as candidate materials of LFR and ADS system. The oxygen control and purification systems are also equipped in the loop to investigate the key technologies of lead-based coolant.

##### Acceptance of radioactive material

No

[Click here to enter text.](#)

##### Scheme/diagram



**3D drawing/photo**

N/A

**Parameters table**

Medium (Coolant) inventory	10 ton
Power	200kW
Test sections	
TS #1	<u>Characteristic dimensions</u> 87 samples, 50×9×2mm
	<u>Static/dynamic experiment</u> dynamic
	<u>Temperature range in the test section (Delta T)</u> 200°C-550°C ( 300°C )
	<u>Operating pressure and design pressure</u> ambient
	<u>Flow range (mass, velocity, etc.)</u> N/A
Medium (Coolant) chemistry measurement and control (active or not, measured parameters)	Gas and solid oxygen control system Purification system
Instrumentation	Thermocouples, magnetic flow meter, pressure transducer, oxygen sensors.

**COMPLETED EXPERIMENTAL CAMPAIGNS: MAIN RESULTS AND ACHIEVEMENTS**

N/A

**PLANNED EXPERIMENTS (including time schedule)**

Experiments will be carried after construction finished in 2019.

2019: OCS test and purification test

2020-2022: Long term corrosion test (more than 15000h)

**TRAINING ACTIVITIES**

Training activities are possible, depending on availability and after prior agreement under supervision of CNPRI.

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

No