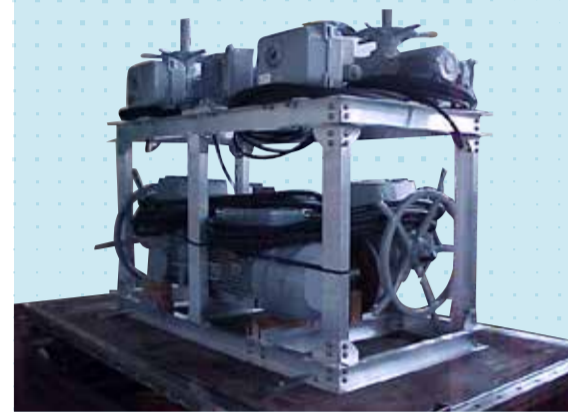


Among our Achievements:



Ageing irradiation performed in the CALINE cell on a HTA electrical penetration (Auxitrol - EDF/Septen)



Engine valve (L. BERNARD) and engines (CEB) K1 qualification performed in the CALINE cell (EDF/Septen)



Qualification of radioprotection beacons performed in the irradiator PAGURE (MIRION Technologies)



Qualification of radioprotection beacons performed in the irradiator POSEIDON (MIRION Technologies)



Certifications

The Direction of Nuclear Energy is ISO 9001 certified notably for the activities of exploitation of nuclear installations and service provision.

In addition, the LABRA is ISO 13485 and 11137 certified for radiosterilization processes.



Paint coating materials qualification performed in the accelerator VULCAIN (EDF/CEMETE)



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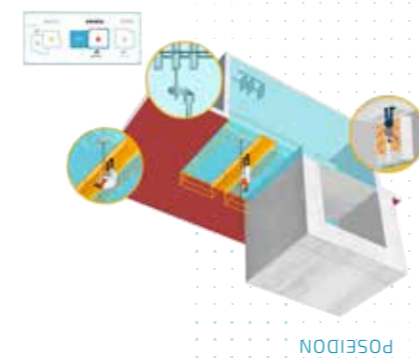
LABRA

LABORATORY OF APPLIED RADIATION



Nuclear Qualification of materials and equipment
Radiation testing of electronic components and systems
Radiosterilization of medical devices

DESIGN: S. MOUÏERDE - PHOTOS: P. STROPPA, M. OMER / CEA
ILLUSTRATIONS: C. BEURTEY/CEA



POSEIDON



PAGURE

Proven experience

For more than 40 years, the **Laboratory of Applied Radiation, CEA/LABRA**, provides its facilities and expertise to serve:

- + Operators, equipment manufacturers, suppliers and researchers, consistent with the strategy of CEA's Direction of Nuclear Energy to support the nuclear industry,
- + Suppliers of medical devices for the purpose of radiosterilization according to the requirements of the ISO 13485 and ISO 11137 standards.

To meet those needs LABRA provides manufacturers and researchers means of gamma irradiation (Co60) and electron irradiation (Van de Graaf accelerator) facilities for a wide range of dose rates.

The teams of CEA / LABRA, EDF and the nuclear industry defined the terms of reference for irradiation testing of the electrical equipment (classified K1, K2, K3 and post-Fukushima tests).

If there is a need for services beyond the competence of LABRA, it is possible to direct requests to CEA experts in different fields (mechanical testing, corrosion, vibration, modeling, etc.).



A complete technical platform

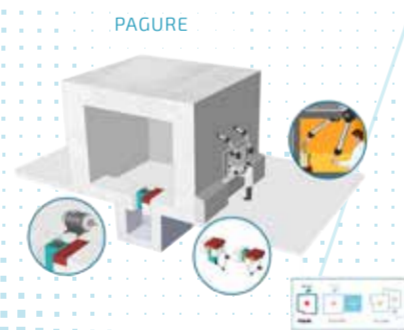


The irradiator PAGURE

- + Total activity of 740 TBq of Cobalt 60
- + A range of dose rate from 1 Gy/h to 25 kGy/h

Applications

- + Nuclear Qualification
- + Irradiation for research and spatial domains

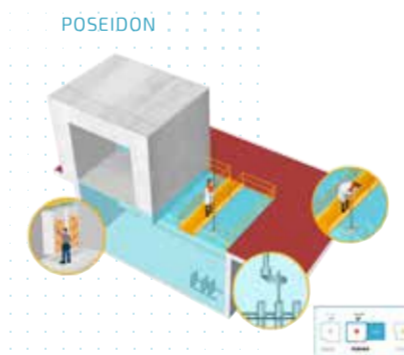


POSEIDON : a pool type industrial irradiator

- + Total activity of 37,000 TBq of Cobalt 60
- + A range of dose from 1 to 10 kGy/h

Applications

- + Nuclear Qualification
- + Radiosterilization
- + Research and Development

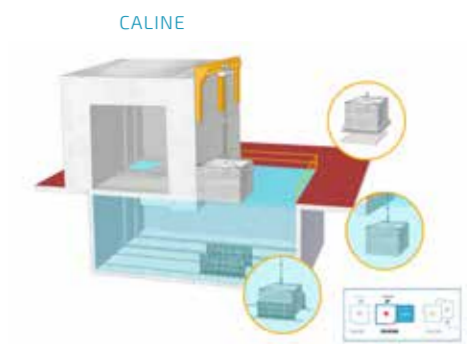


CALINE

- + Parallelepiped sealed cell, which may be immersed in the POSEIDON irradiator pool
- + Dimensions: 2,60 x 1,90 x 1,58 m³
- + Dose rates of about 1 kGy/h
- + Material of mass up to 4.5 tons can be irradiated
- + Possibility to maintain equipment installed in the CALINE enclosure at a temperature of (70 ± 3) ° C during irradiation
- + Possibility of various power supplies and various fluids (gas or liquid)

Applications

- + Nuclear Qualification



VULCAIN : The Van de Graaff accelerator

- + Delivery of electrons from 0.5 to 2.5 MeV
- + Doses of several dozens of MGy
- + Dose rates of 100 kGy/h and more

Applications

- + Tests of thin materials (paint coatings and sealants, electrical cables)

