

SHERLOCK

Investigate to Mitigate

A living research laboratory with one retired steam generator fully accessible for comprehensive evaluations and testing

To improve the understanding of ageing mechanisms and support asset management of steam generators (SGs), EDF is undertaking a major testing and evaluation program with one retired steam generator. With a total cost of over 30 Million €, the project is conducted by EDF CEIDRE since 2014 with the support of the MAI for the collaboration with the partners. Current partners are AREVA and EPRI. The project is still open to international collaborations with utilities and other companies in the nuclear industry involved in SG design, manufacturing and ageing management.

The project provides a unique opportunity to obtain samples from materials aged under PWR operating conditions for in situ examination or in hot laboratories. This allows evaluations of non-destructive examination equipments and techniques under service-like conditions.

SG from Cruas 4 Power Plant

KEY FIGURES:

- 11** **Topics of investigation**
More than:
- 100 samples
 - 80 000 hours of engineering including 20 000 hours of expertise
 - 25 expertise reports

- 2** **committed partners:** EPRI and AREVA who provide a technical and financial support

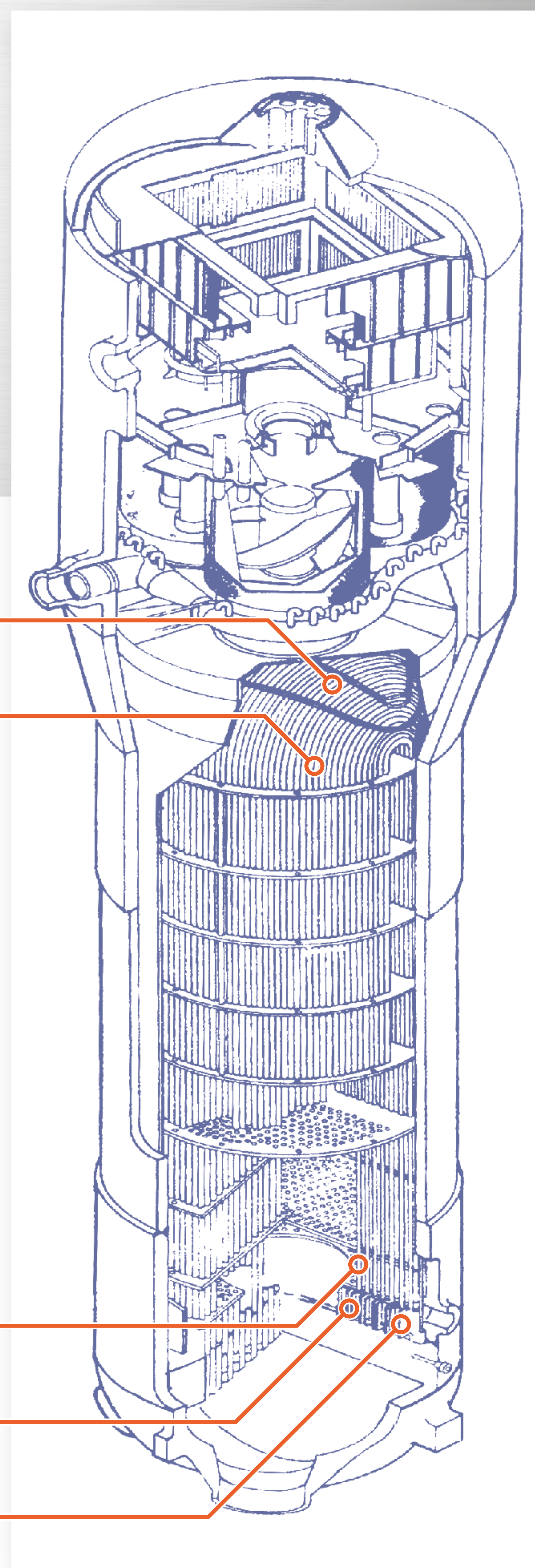
Duration: **10** years (2014 to 2024)

Cost: **~30** million €

PROGRESS SCHEDULE:

- VT and NDT in the Reactor Building during the outage (vertical SG)
→ **Reference point Calibration done successfully including a unique comparison between French and US probes**
- VT and NDT in the storage Building. Scheduled for 2020 (horizontal SG) including also a new comparison between French and US probes
- Operations of decontamination and cutting scheduled for 2020
- 1st sample available for examination in 2020
- Hot lab examinations scheduled between 2020 and 2024

WEAR
FATIGUE
FOULING AND CLOGGING DEPOSITS
EXTERNAL CORROSION
VISUAL INSPECTION
NDT
HARD SLUDGE AT TTS
TIE RODS
WELDS / TUBE ENDS
ALLOY 690 PLUGS



Do not hesitate any more...

Come and join the Sherlock Project as a new partner