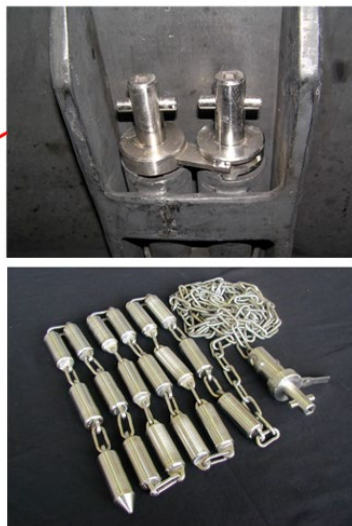
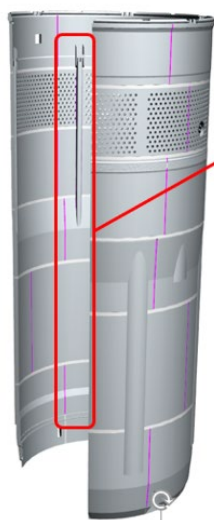




NUCLEAR
RESEARCH
INSTITUTE

Mechanical and Corrosion Properties Department Integrity and Technical Engineering Division



REACTOR PRESSURE VESSEL SURVEILLANCE PROGRAMMES

Surveillance chains and their placement in VVER-440 NPPs (Dukovany NPP)

Value for customers

- Knowledge, long-term experience and technical infrastructure to design, prepare, manufacture and evaluate results of reactor pressure vessel (RPV) surveillance sample programmes.

Applications

- Development and operation of RPV surveillance sample programmes for newbuild nuclear power plants (NPPs) in accordance with the newest standards requirements (ASME, ASTM).
- Analysis and enhancement of RPV surveillance programmes for operating NPPs for the results necessary for the long-term operation assurance.

What we offer

- Necessary knowledge and long-term experience in design, manufacture, transport and handling of the surveillance capsules, including dosimetry instrumentation and evaluation.
- Unique experimental infrastructure including 21 hot cells and 23 semi-hot cells providing extensive portfolio of the accredited mechanical and corrosion-mechanical testing of irradiated materials.

Contact details

Ivana Schnablová
Head of the Mechanical and Corrosion
Properties Department
tel: +420 721 499 334
e-mail: ivana.schnablova@ujv.cz

ÚJV Řež, a. s., Hlavní 130, Řež, 250 68 Husinec,
Czech Republic
tel.: +420 266 172 000, e-mail: sales@ujv.cz
Integrity and Technical Engineering Division
tel.: +420 266 173 445, e-mail: integrity@ujv.cz
www.ujv.cz

- RPV surveillance sample programme assessment and design including:
 - Definition of the requirements, analysis of the present state
 - Design of the new programmes, including technical specification and QA framework
 - Design and manufacture of specimens
 - Surveillance capsule assembly including the dosimetry and temperature monitoring instrumentation
 - International transport of the surveillance capsule for the testing at UJV Rez, a. s.
 - Evaluation of the material mechanical and corrosion-mechanical properties, assessment and prediction of the material performance
- State of the art methods employment for the effective utilization of the archive materials (electron beam welding, miniaturized specimen manufacture).
- Accelerated irradiation testing in the experimental research reactor LVR-15

Our references

- Surveillance programmes for Dukovany and Temelin NPPs (Czech Republic), Jaslovske Bohunice and Mochovce (Slovakia)
- Irradiation experiments and post-irradiation evaluation for international projects (Japan, USA, Finland, Korea)



VVER-1000 Surveillance Capsule



Reactor pressure vessel inner wall capsule holder for VVER-1000 (Temelin NPP)