

**1<sup>st</sup> Topical Peer Review**  
**Public event – 3<sup>rd</sup> May 2018**  
**Brussels**

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Pressure Vessel and Calandria**

## Reactor Pressure Vessel :

- Different type of reactor
  - PWR
  - VVER
  - BWR
  - CANDU
- Features
  - Pressure equipment
  - Made in alloy steel
  - Size
  - Contains the fuel
  - No Replaceable

# Reactor Pressure Vessel :

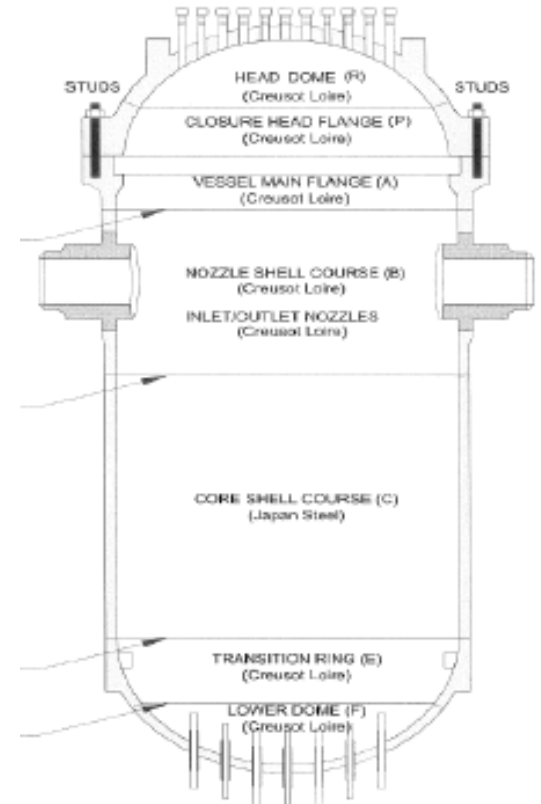
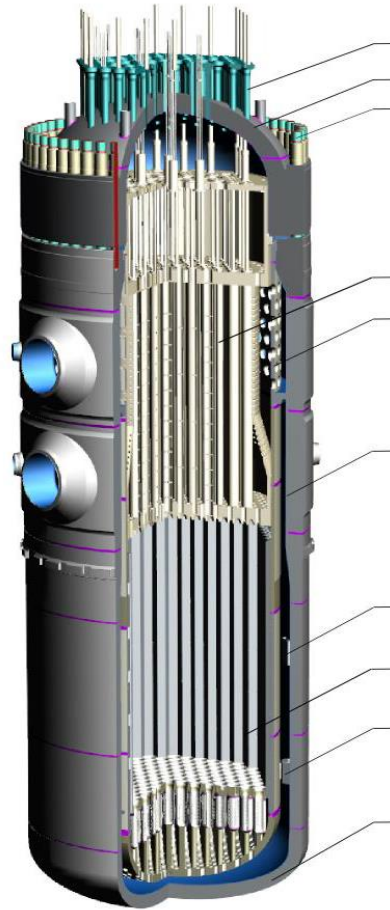
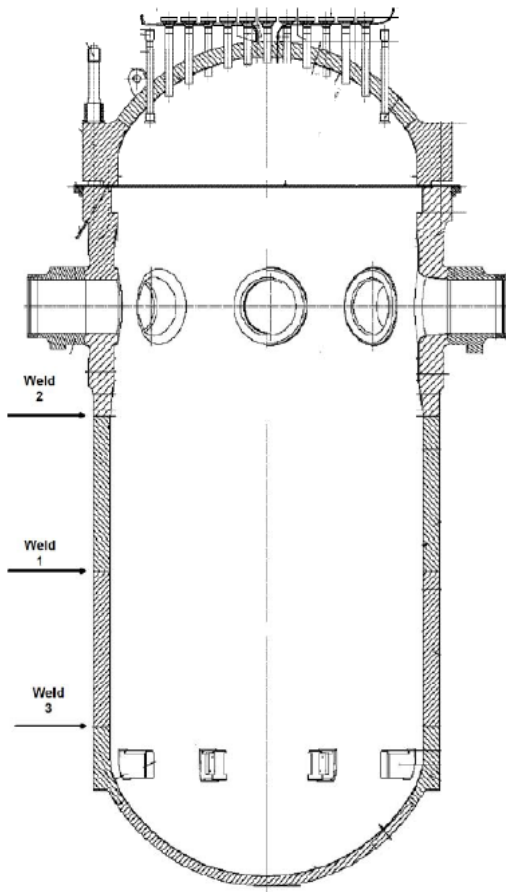


Figure 5.3 – EPR™ RPV

## Reactor Pressure Vessel :

- Main mechanisms of ageing
  - embrittlement under irradiation
  - thermal ageing
  - fatigue under cyclic loading
  - corrosion
  - stress corrosion
  - atmospheric corrosion of bimetallic welds
  - mechanical damage / wear
  - loss of pre-load of bolt connections
  
- Experts Group composition
  - 9 experts from
    - Belgium, Czech Republic, Finland, France, Greece, Spain, Sweden, Ukraine, United Kingdom

## Reactor Pressure Vessel :

- Work in progress
  - 162 questions by the experts
  - Identification of findings in NAR
    - Good practices
    - Area for improvement
  - NARs evaluated by 2 experts
  - 128 preliminar findings identified by the experts
  - A meeting of workshop preparation in April 24 – 25
  - 27 common findings
  - 15 findings will be discuss during the workshop about
    - Radiation embrittlement
    - Primary water stress corrosion cracking
    - Fatigue
    - In service inspection
    - Experience feedback

**Thank you for attention**

**Questions ???**