Applying international experience for the dismantling of Chooz A SGs

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  - BR3 (Belgium)
  - US
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- Context in France regarding waste management
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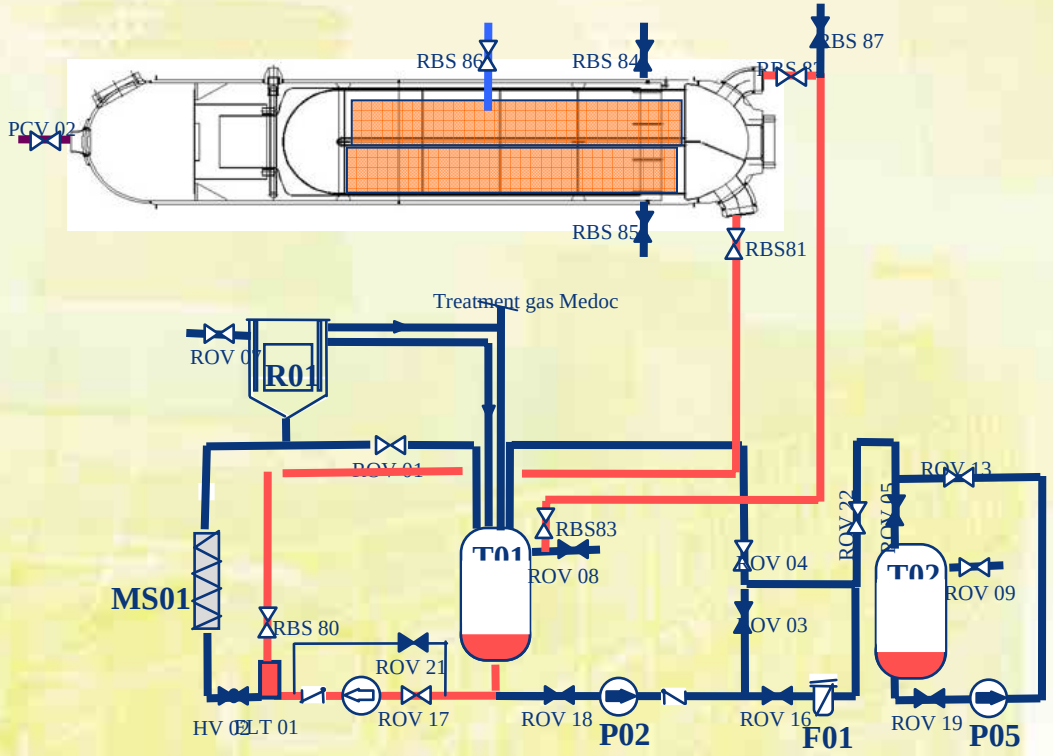
BR3 experience (Belgium)

- **Chemical decontamination**
  - ❖ **High Decontamination Factor (1000)**
    - MEDOC process
- **Free release after melting**

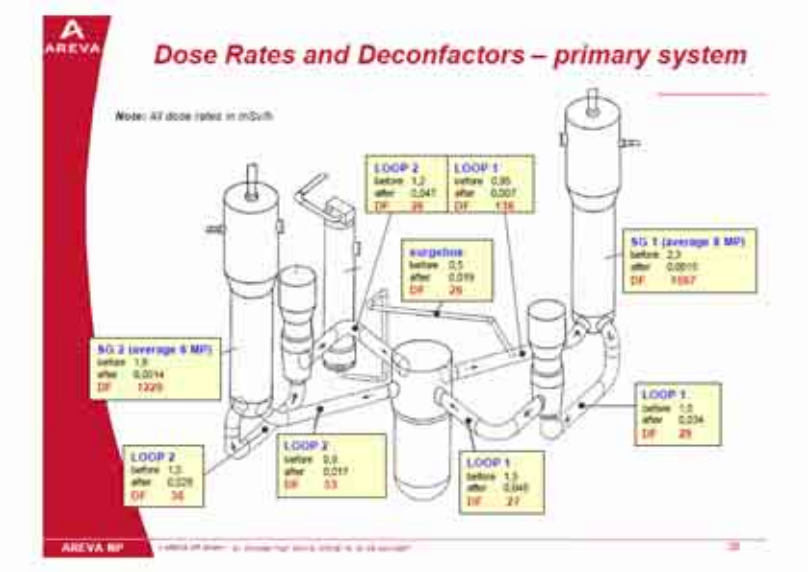


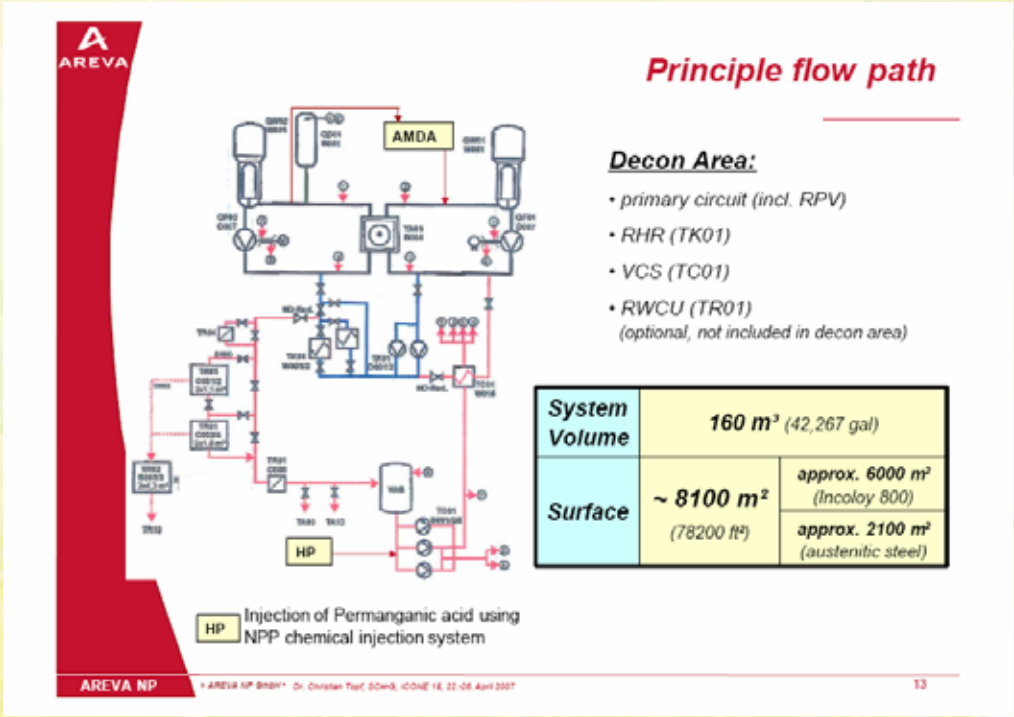
US experience regarding SG dismantling

- One piece disposal at a LLW repository after decontamination

Barnwell

SG dismanlting in Germany (Obrigheim)



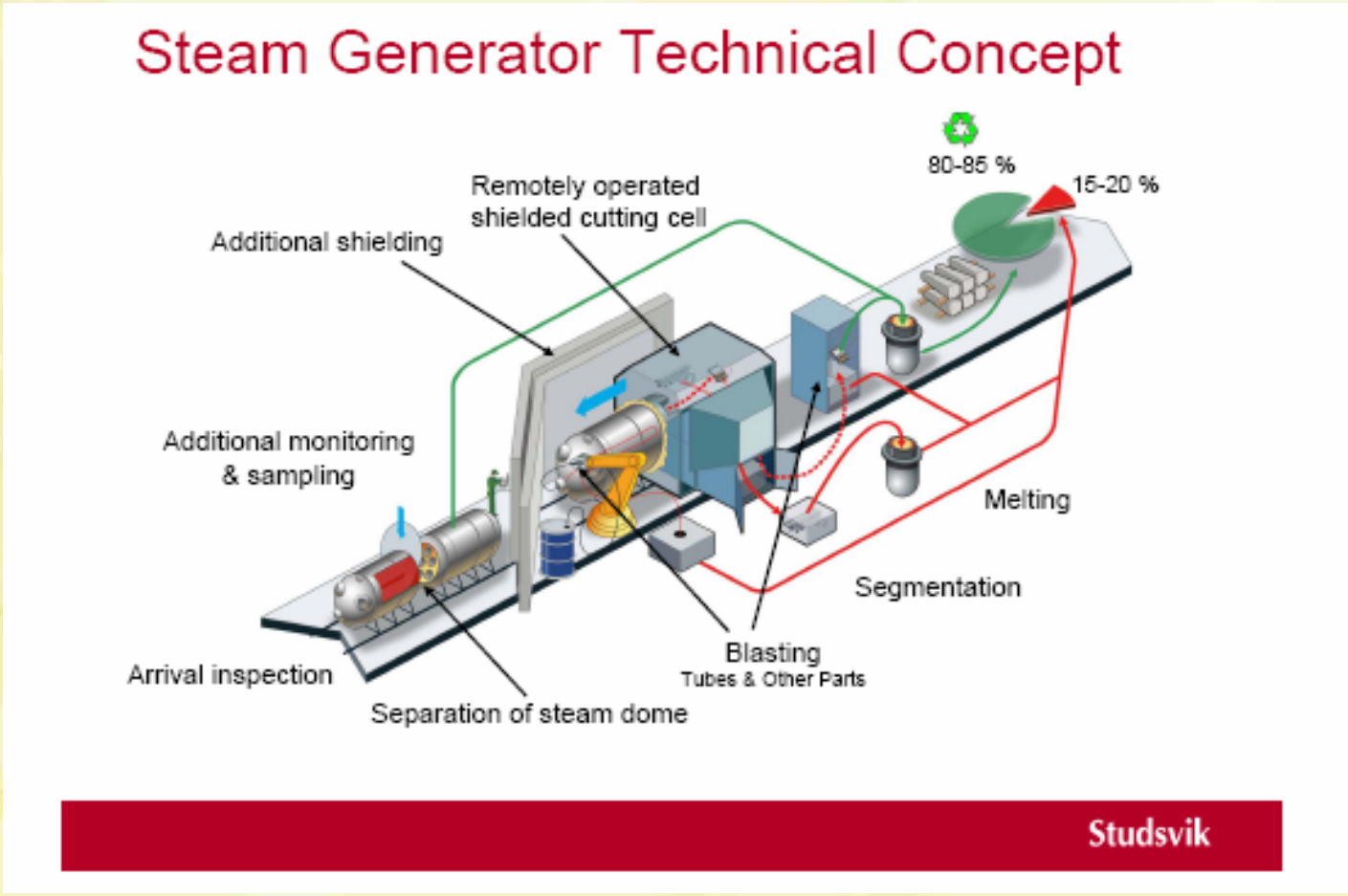


- **Full Scope Decontamination prior to dismantling**
  - **HP CORD D UV**

SG dismanlting in Germany (Stade)

Stade SGs transported in 2007 to
Studsvik's facility for melting

Segmentation and melting at Studsvik's facility



Context in France regarding WM

- **Free release not allowed**
- **A VLLW repository is available**
  - ❖ **Waste disposal cost much lower than disposal cost at the LLW repository**

Chooz A SGs dismantling

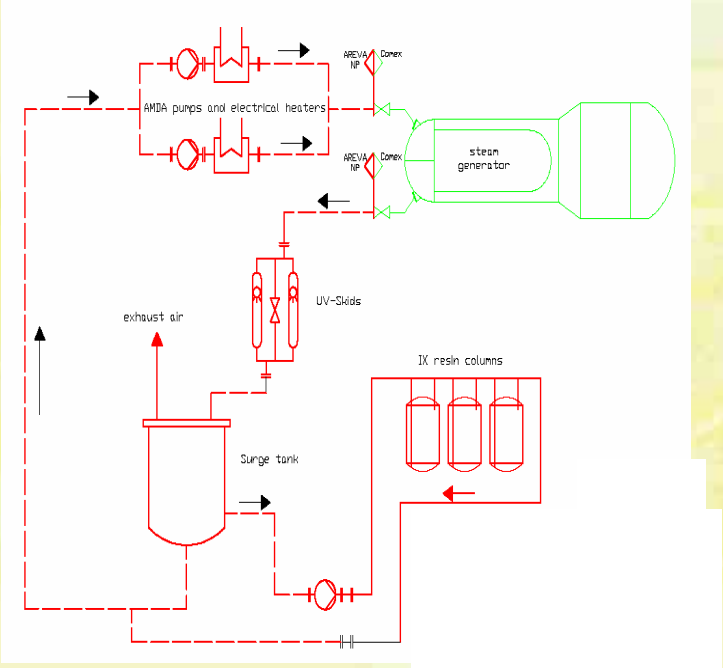
- **Selected scenario**
  - **Decontamination with a high Decontamination Factor**
    - Waste Decategorisation from LLW to VLLW (disposal cost reduction)
  - **One piece disposal**
    - Save time and exposure for the workers (no segmentation)
    - Less release and secondary waste
    - Less transportation
    - Optimises the volume needed for disposal
- **Issues to be solved**
  - **SGs acceptance at the VLLW repository**
  - **Secondary waste conditioning**
    - Depending on the decontamination process

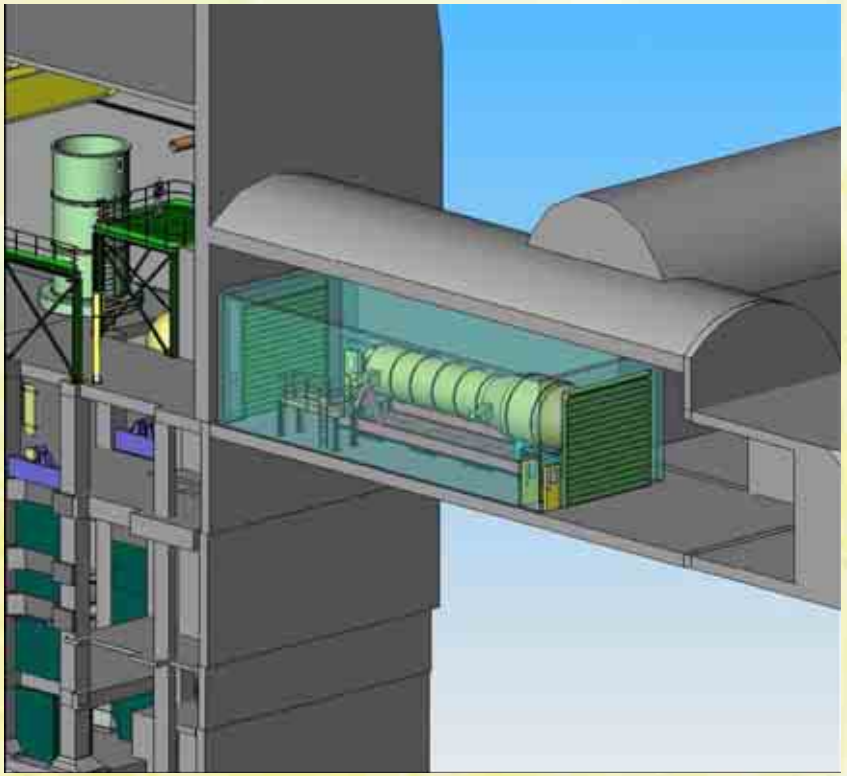
Selection of the decontamination process

- **Open tender**
  - ❖ **No decontamination process prescribed**
  - ❖ **Objective : meet the criteria for VLLW category**
- **Contract award**
  - – **Technical Criteria**
    - Demonstrate the efficiency of the decontamination process on samples
  - – **Financial criteria**
    - Total cost for EDF (including secondary waste processing and disposal)
- **Drivers governing the selection by the contractor of the decontamination process**
  - ❖ **Secondary waste conditioning**
  - ❖ **Liquid release**
  - ❖ **Industrial experience**

SG decontamination at Chooz A

- **Chemical decontamination with a high decontamination factor**
  - ❖ **HP CORD D UV**
- **One piece removal**





Current situation

- **Contract awarded**
  - **Detailed Design in progress**
  - **SG Decontamination planned in July 2010**
  - **Efficiency of the decontamination process to be demonstrated on really contaminated samples (planned in April 2009)**
- **Issues still to be solved**
  - **SGs acceptance at the VLLW repository (under investigation by ANDRA)**
    - Development of a dedicated cell might be necessary (with heavy payloads handling tools)

Conclusions

- **A simple Copy of BR3 experience was not possible**
  - ❖ **No free release**
  - ❖ **Decontamination process considered as not fully industrial by some suppliers (risk)**
  - ❖ **Secondary waste conditioning to be developed in France**
- **Chooz A SGs dismantling presents some residual risks**
  - ❖ **Efficiency of the decontamination process. Chooz A is still a first of its kind :**
    - **CORD UV never used for waste decategorisation**
  - ❖ **Acceptance at the VLLW repository**
    - **Alternative solutions to be considered**

Drivers governing Chooz A SGs dismantling

Available experience

Waste management policy

Suppliers experience (risk assessment)

One piece disposal at a LLW repository

Decontamination with a high factor for free-release

In situ decontamination for dose rate reduction

Scenario Selection for Chooz A SGs :

- Decategorisation after decontamination
- One piece disposal at a VLLW repository

Open tender

Waste disposal facility specifications

Secondary waste conditioning process available

Reference

- **For similar experience regarding Reactor Pressure Vessel refer to :**
  - **WM 2009 – session 18**
    - « International Cooperation fot the Dismantling of Chooz A Reactor Pressure Vessel » - 9087 – JJ Grenouillet - EDF