



**International Atomic Energy Agency**

# **Fuel Fabrication Facility Test Case Feedback 2010**

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**Third Annual Meeting of the IAEA FaSa Project**

**29 November – 03 December 2010**

**IAEA, Vienna,**

## Background to Test Case

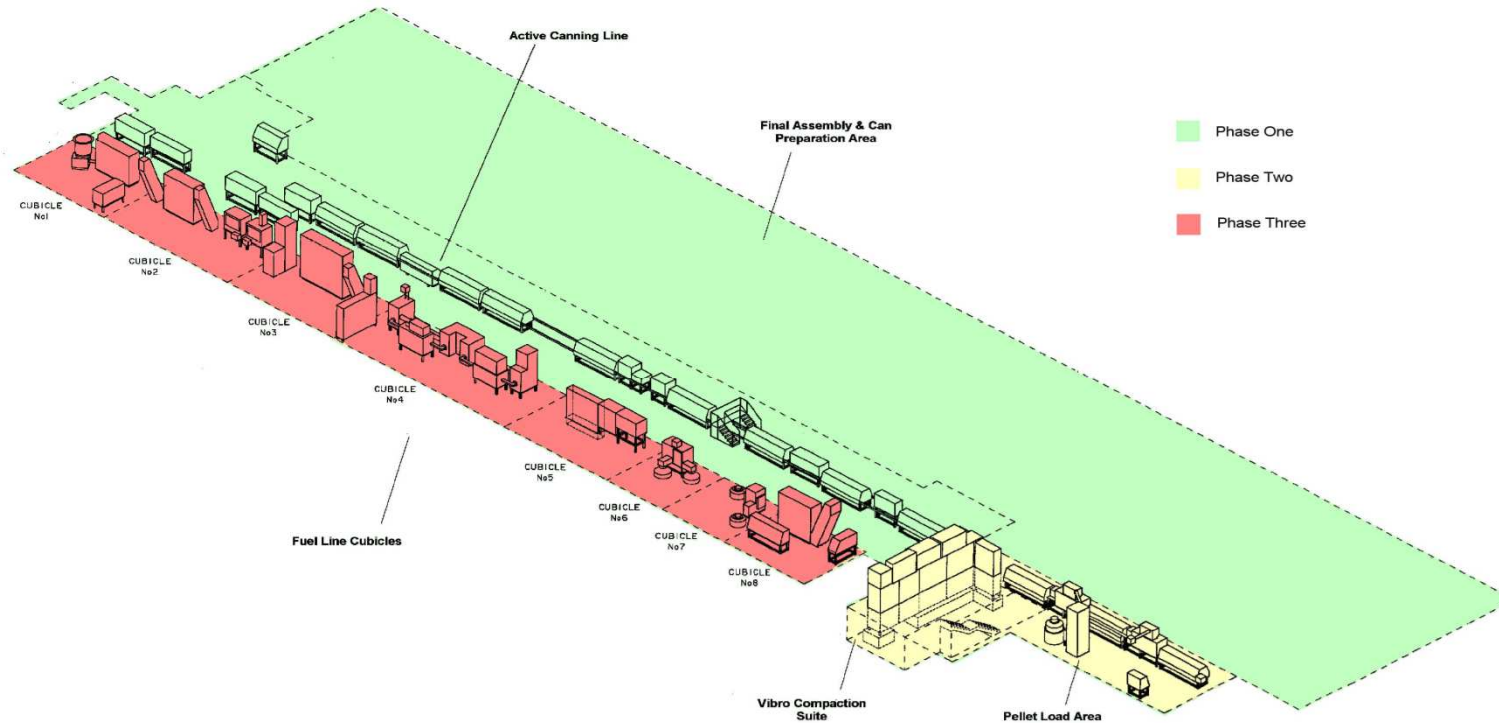
- The SEP PFR fuel fabrication facility operated from 1971 to 1992
- Manufactured Mixed-oxide (MOX) fuel assemblies for the Dounreay Prototype Fast Reactor.
- It consists of five 5 key areas:
  - Fuel Line
  - Pellet Load & Vibro-compaction Suite.
  - Active Canning Line.
  - Final Assembly & Can Preparation.
  - Ventilation system.



# Aerial Photograph of the Facility



# Decommissioning Strategy



# Decommissioning strategy

- Facility to be decommissioned using a Phased approach, tackling each area in order.
- Aim was to move from areas of low contamination through to areas of greater contamination therefore gaining experience of decommissioning tools and techniques as task progressed.

# Decommissioning Strategy

- Phase Three.

Decommissioning of Fuel line, using both manual and remote techniques.



# Decommissioning Strategy

- Phase Four.

Decontamination of the Vibro-compaction area and removal of the Building Extract System, including Mobile Filtration Unit.

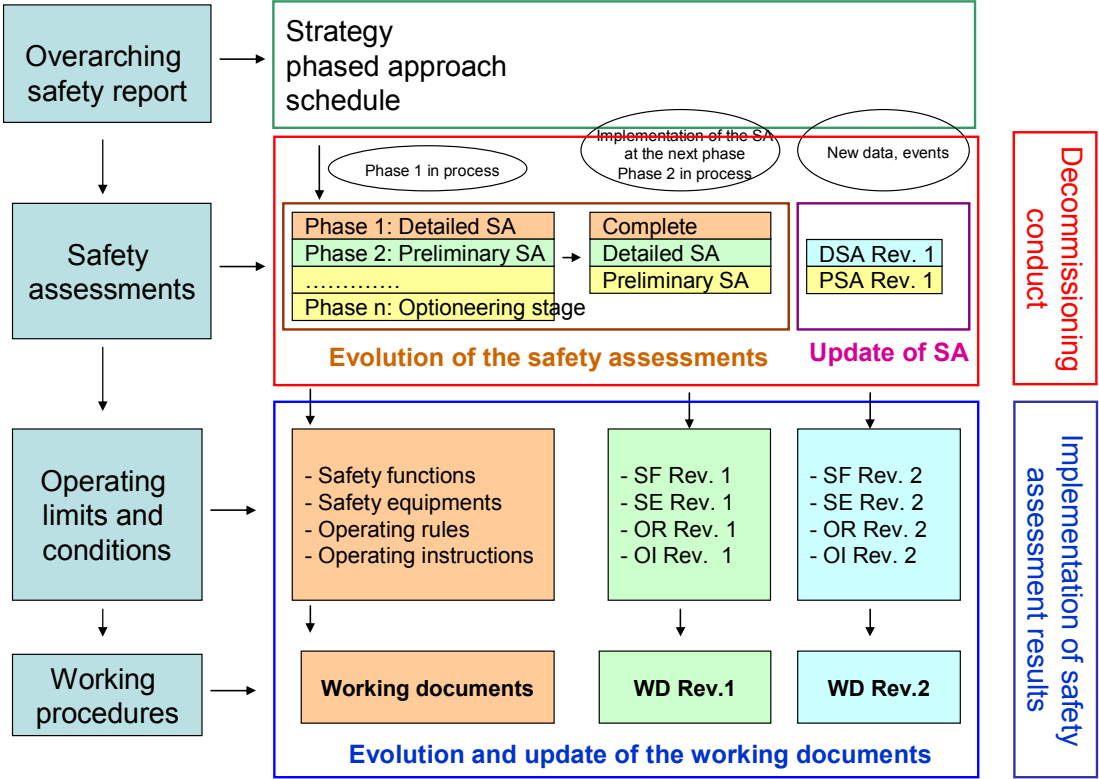


# Safety Assessment Strategy

- The Safety Assessment strategy also adopted a phased approach – mirroring the decommissioning strategy
- For each phase a Preliminary Safety Assessment was generated which was then updated to a Detailed Safety Assessment before being finalised for implementation.



# Safety Assessment



## **Aim of the FFF Test Case Report**

- The aim of the report is to provide the reader with a “real-life” example of the DeSa and FaSa approach to decommissioning safety assessment.

### **Suitability of the chosen facility**

- This facility is considered to be a good example of phased decommissioning and a significant amount of assessment material is available.



# Fuel Fabrication Test Case Working Group

A joint 4 day meeting was hosted by IRSN in Paris during May 2010, which involved:

- Decommissioning Conduct.
- Fuel Fabrication Test Case report.



# List of participants

- **Mark Pennington**                      **Sellafield Sites, UK**
- **Patrice Francois**                      **IRSN, France**
- **Stephen Dhlomo**                      **NESCA, South Africa**
- **Philippe Auffrey**                      **EDF, France**
- **Geraldine Palcoux**                      **CEA, France**
- **Roger Tremblay**                      **AECL, Canada**
- **Audrey Halle**                      **DSRL, UK**



## Test Case Report update

- The structure of the test case report was discussed and detailed work was undertaken on the first 4 chapters, including incorporation of all the Working Group participants comments.
- Preliminary work commenced on Chapters 5 (Hazard Analysis – Evaluation) and Chapter 6 (Engineering Analysis).
- The additional data required to update the report was highlighted and this has been sourced.
- Unfortunately we were unable to meet again as a Working Group in September as originally envisaged but all participants are willing to assist with report drafting this week.



# Outline Work Plan for the Working Group

Presented below is the tentative outline work for the working group, for this week:

- Review of current Test case Report chapters
- Detailed work on chapters 4, 5, 6 and 7.
  - Hazard Analysis – Identification and Screening.
  - Hazard Analysis – Evaluation.
  - Engineering Analysis.
  - Evaluation of Results and Safety Measures.
- Agree scope of chapters 8, 9 and 10.
- Detailed work-plan for the 2011 meetings.



# Questions and Answers

**Questions and Answers from the meeting participants.**

