

Case Study Procedure for Site Release

OPERATORS GROUP

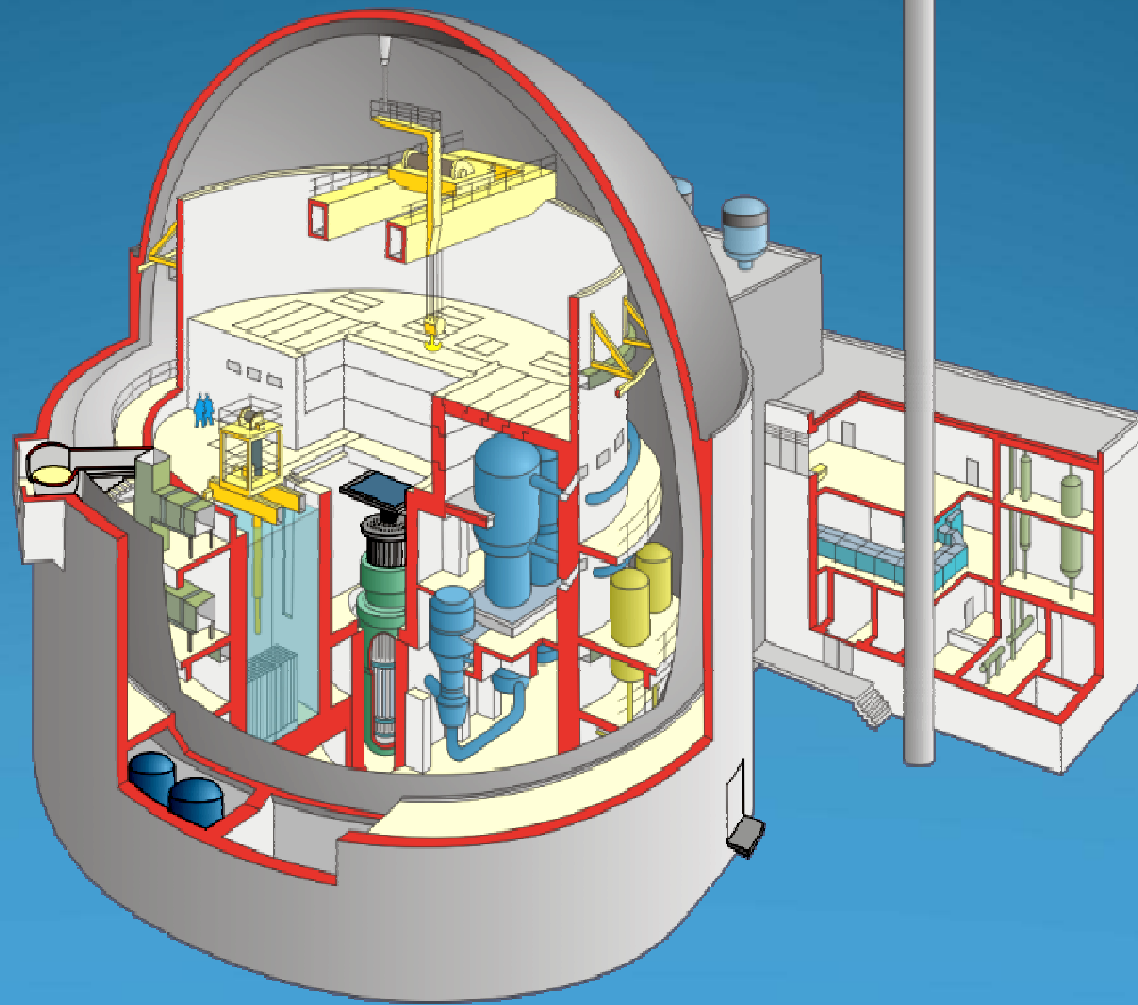
IAEA workshop, Karlsruhe 01-10-2010

Group 1 : CASE STUDY

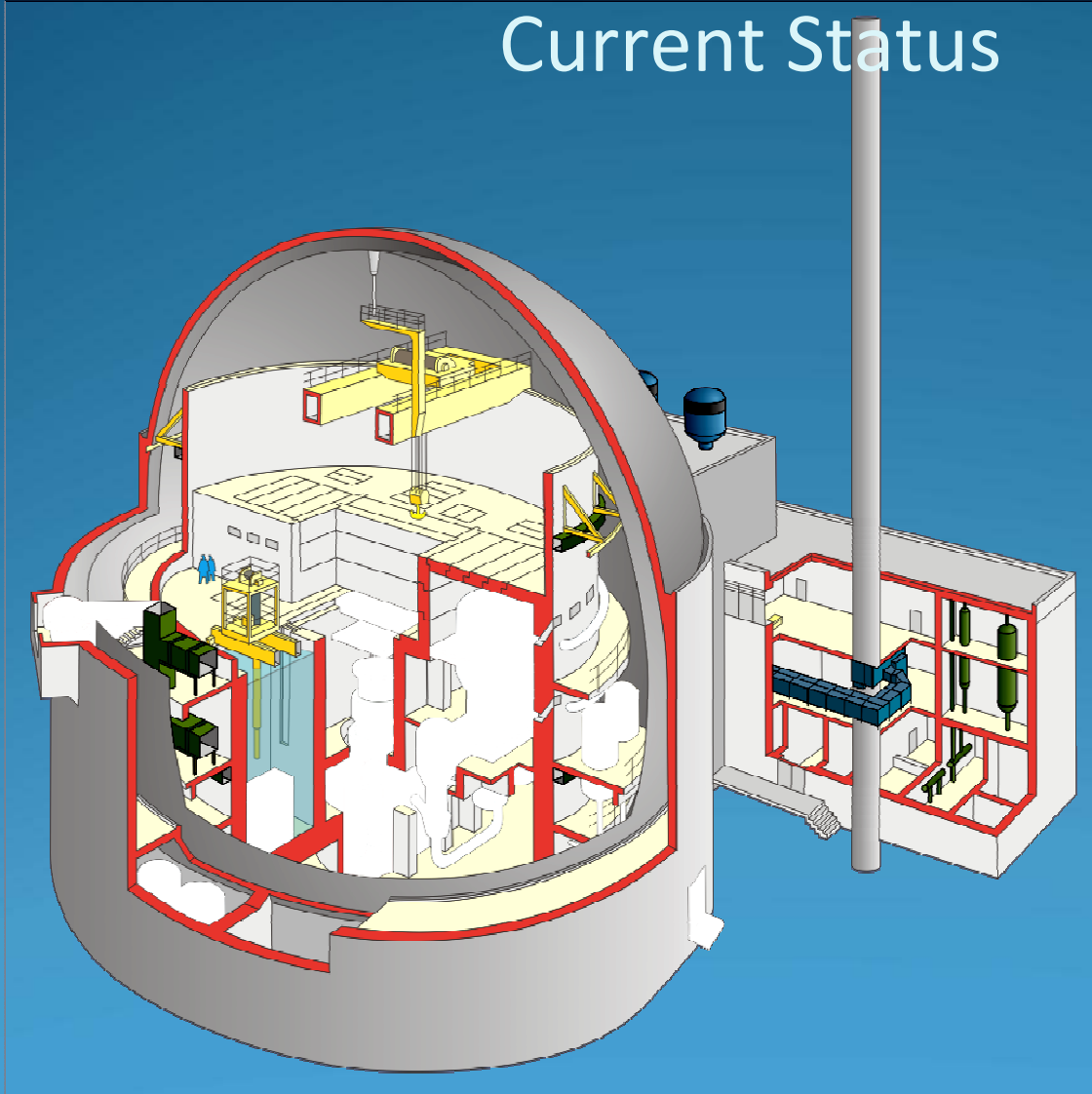
PROCEDURE FOR SITE RELEASE

1. Mr Nerbe Jose Ruperti Junior
2. Mr Valentin Iliev
3. Mr Yidong Zhou
4. Mrs. Anastasia Savvidou
5. Mr Gabor Toth
6. Mr Philip Harding
7. Mr Khairul Huda
8. Mr Yousuf Al-Bakhat
9. Mr Fouzey Al-Musawi
10. Mr Ibrahim Muhamad
11. Mr John Marquez
12. Mr Albert Shapovalov

Original Components and Structures



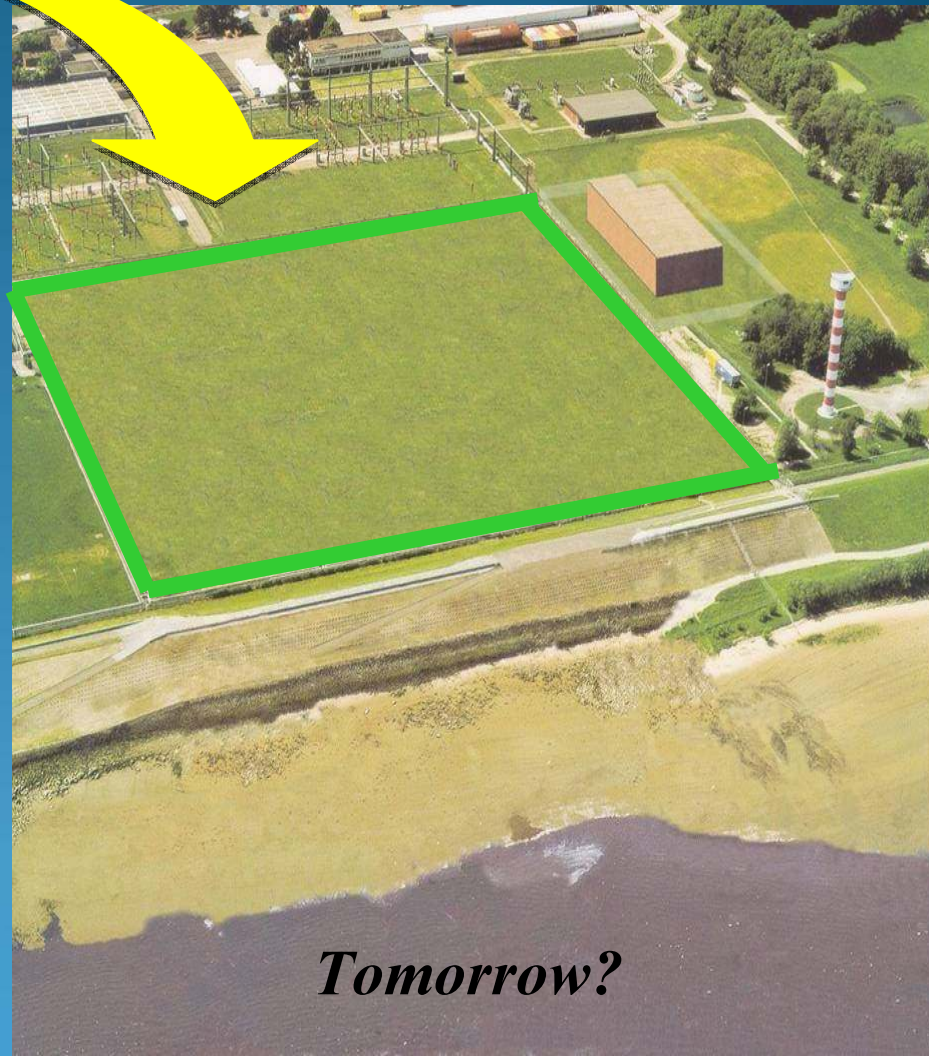
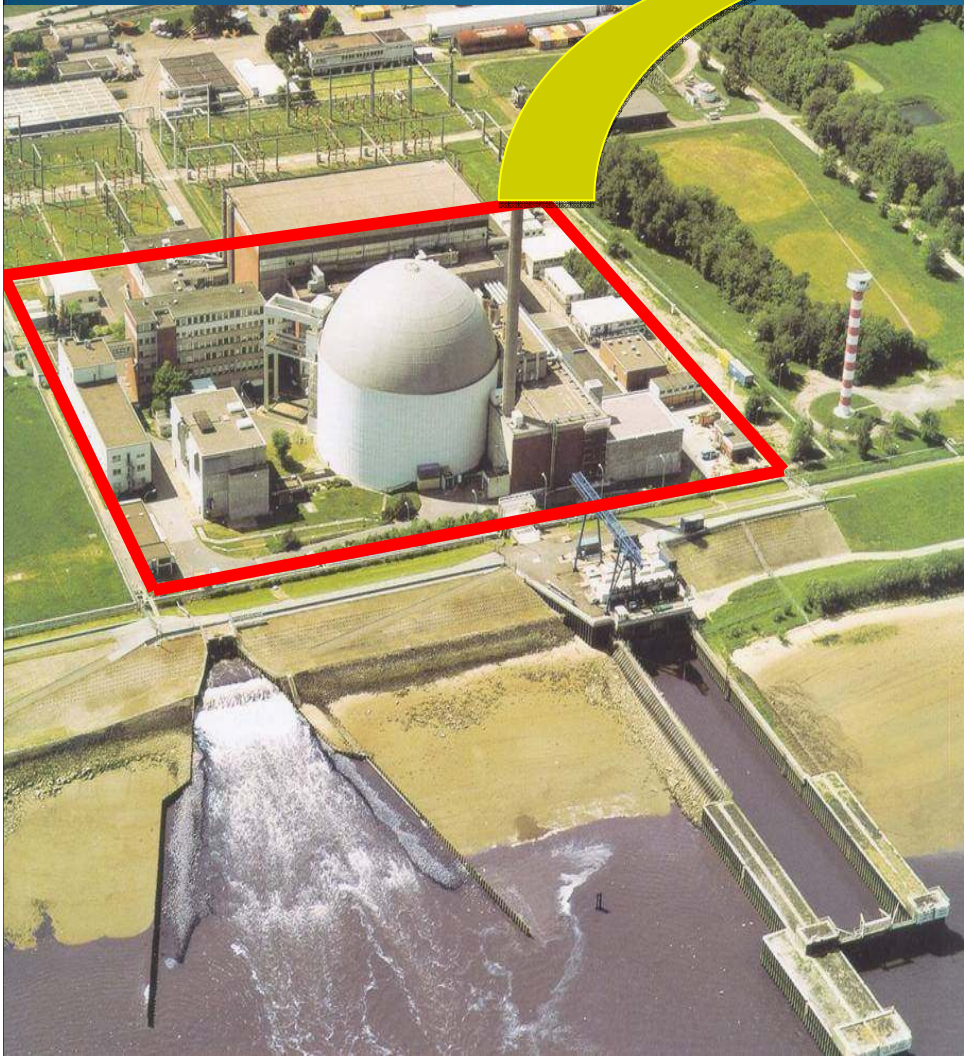
Current Status



Materials left
are:

- concrete
- some drains
- air condition
- build-in metals
- metal stairways

The GOALS



Tomorrow?

Release of controlled area

Documents needed for licence

1. Historical documents, drawings and plans
2. Definition of release criteria, clearance policy
(10 $\mu\text{Sv/y}$) / activity concentrations (Bq/g; Bq/cm²)
3. Survey plan
 - Dose rate and contamination level
 - Take samples
 - Nuclide vectors
 - Classification of areas
4. Dismantling strategy
5. Quality assurance plan
6. Safety assesment report

Survey plan

1. Measure dose rate in controlled area in order to comply with ALARA principles (e.g. GM detector; Proportion counter)
2. Install personal dosimetry system (radiological protection)
3. Hot spots (Gamma camera)
4. Sample
 - Concrete drill + tent for biological shield
 - Other contaminated surfaces (smear)
 - Air-borne: use nuclide vectors from ventilation system

Material sorting

| Materials type | Materials volume | Unconditional release | Conditional release | Hazardous materials | Radioactive waste |
|----------------|------------------|-----------------------|---------------------|---------------------|-------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Project management plan 1

Demolition step by step / removal plan

1. Installation the temporary ventilation system
2. Removal or modify the old vent. system
3. Remove activated concrete
4. Decontaminated system and rooms and marked
5. Dismantling of water treatment facility

Project management plan 2

Take samples from behind metal liner

6. Release

- Conditional
- Unconditional

7. Waste

- Collect waste put in drums,
- Determine activity with nuclide vectors
- Relocation
- Minimize RadWaste (Installation of decontamination and dismantling workshops as well as equipment for clearance measurements)
- Install a waste treatment center or send the radioactive waste to an authorized treatment center

8. Modify electric power supply system

9. Survey areas we didn't previously have access to

10. Demolition of building

Release of site

1. Remove rubble
2. Measure contamination and dose rates on sites and compare with reference area (assess which measurement technique best fits the requirements)
3. Sampling plan
 - Soil
 - Ground water
 - Sewage
 - Pathway of effluents
4. Removal possible contamination
5. Final survey
6. Final report
7. Quality assurance