

C 2

RISØ

Materials Department  
Hot Cell facility

June 1993

## Status for the Risø Hot Cell Decommissioning

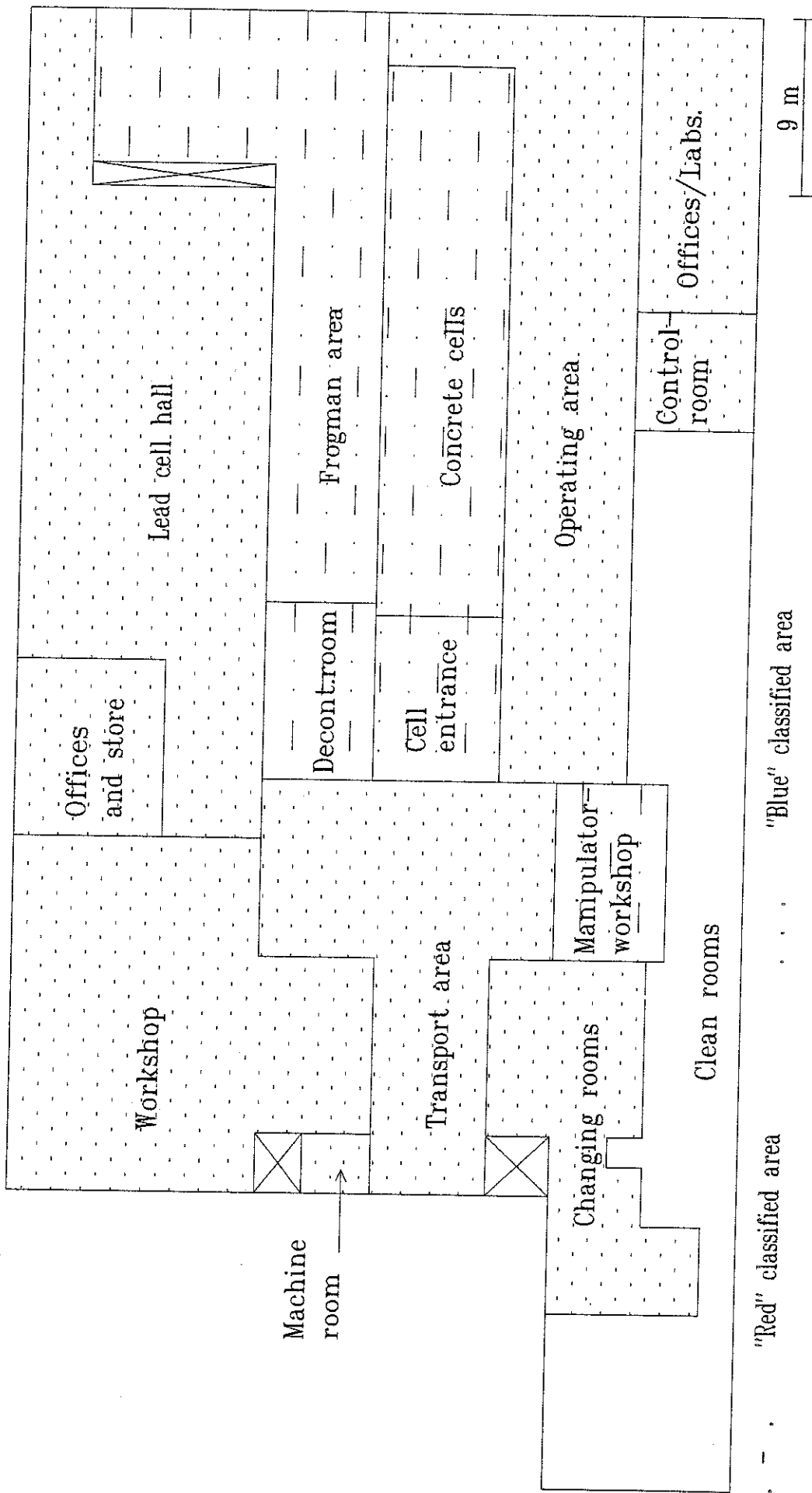
H. Carlsen

*zie paper in Risø 1990.*

*plan geologisch*

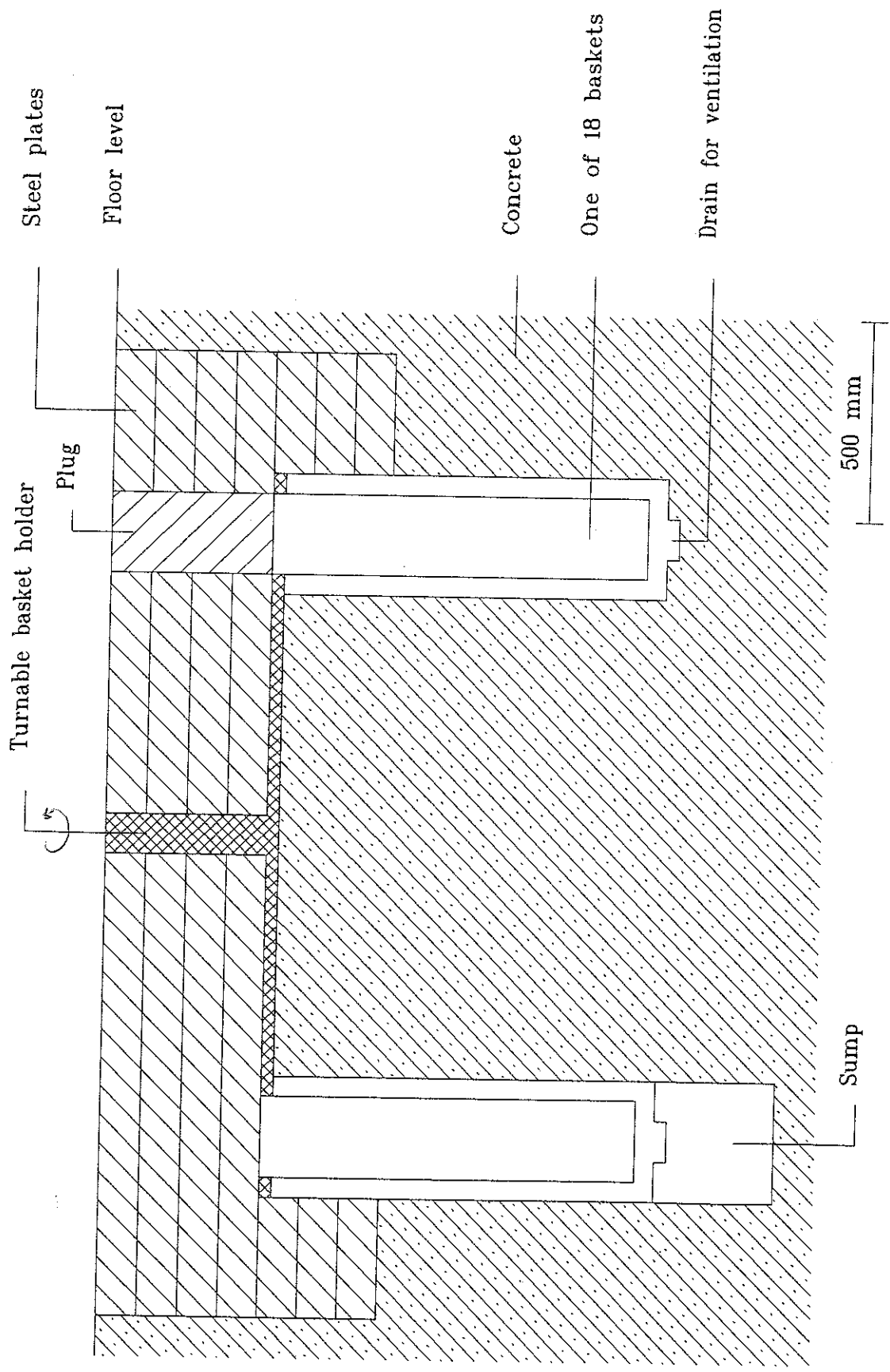
1. Background and site (NIE diff. fuel,  $Co^{60}$  radio-therap.)
2. Removal of fissile material  $\Rightarrow$  no major quantities anymore
3. Removal of large contain. facilities / equipment
4. Decontamination of concrete cells
5. Decontamination of rooms
6. Collective doses
7. Collaboration
8. Remaining work
9. Conclusions

To be presented at the meeting of the Commission of European Communities Working Group "Hot Laboratories and Remote Handling" at Chinon, France 15-16 June, 1993.  
Paper C.2.



Individual must wear "shielded" work clothes

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Shielded storage facility schematically.

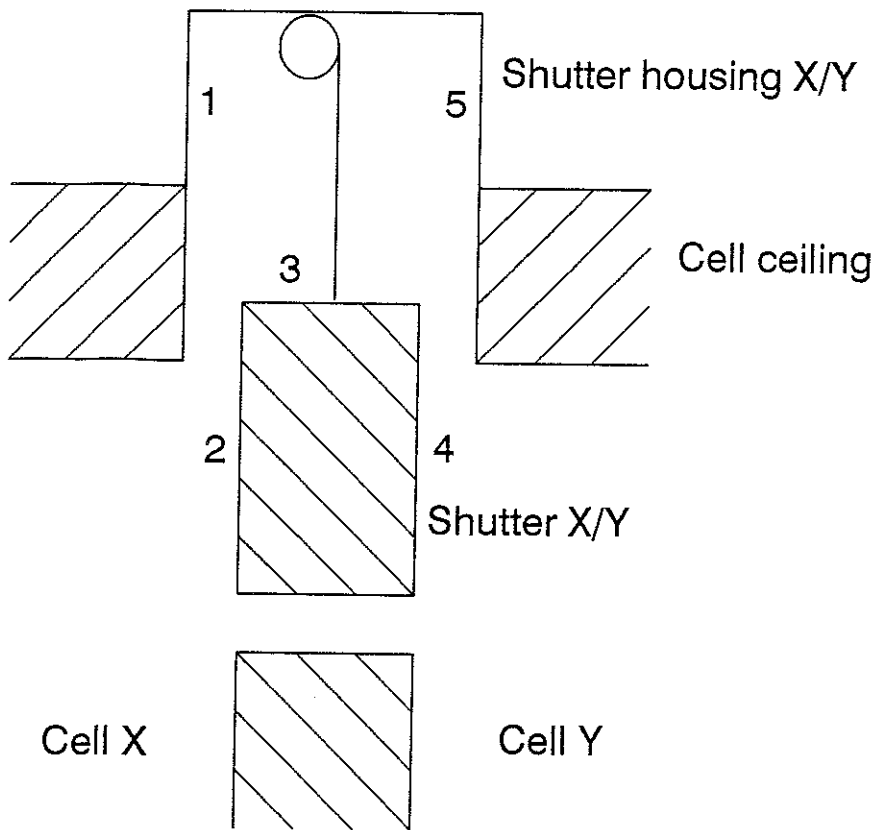
## Decontamination of concrete cells

Cell number	Use	Initial irr. level	Status	[mSv/h]
1	Reception	Medium	Remote cleaning	10 (hot spot 100)
2	Cutting, Co-work	High	Remote cleaning	20 (hot spot 4000)
3	Cutting, Co-work	High	Remote cleaning	20 (hot spot 400)
4	Repair work	Very low	Final cleaning	1
5	Puncturing, Cer./Met.graphy	Low	Finished	6
6	Cer./Met.graphy	Low	Finished	1

Main contaminants:  $^{60}\text{Co}$ ,  $^{134}\text{Cs}$ ,  $^{137}\text{Cs}$ ,  $^{152}\text{Eu}$ ,  $^{154}\text{Eu}$  and  $\alpha$ -nuclides

↓  
*around hot spots*

# Location of smear tests



1: Shutter wall west

2: Shutter west

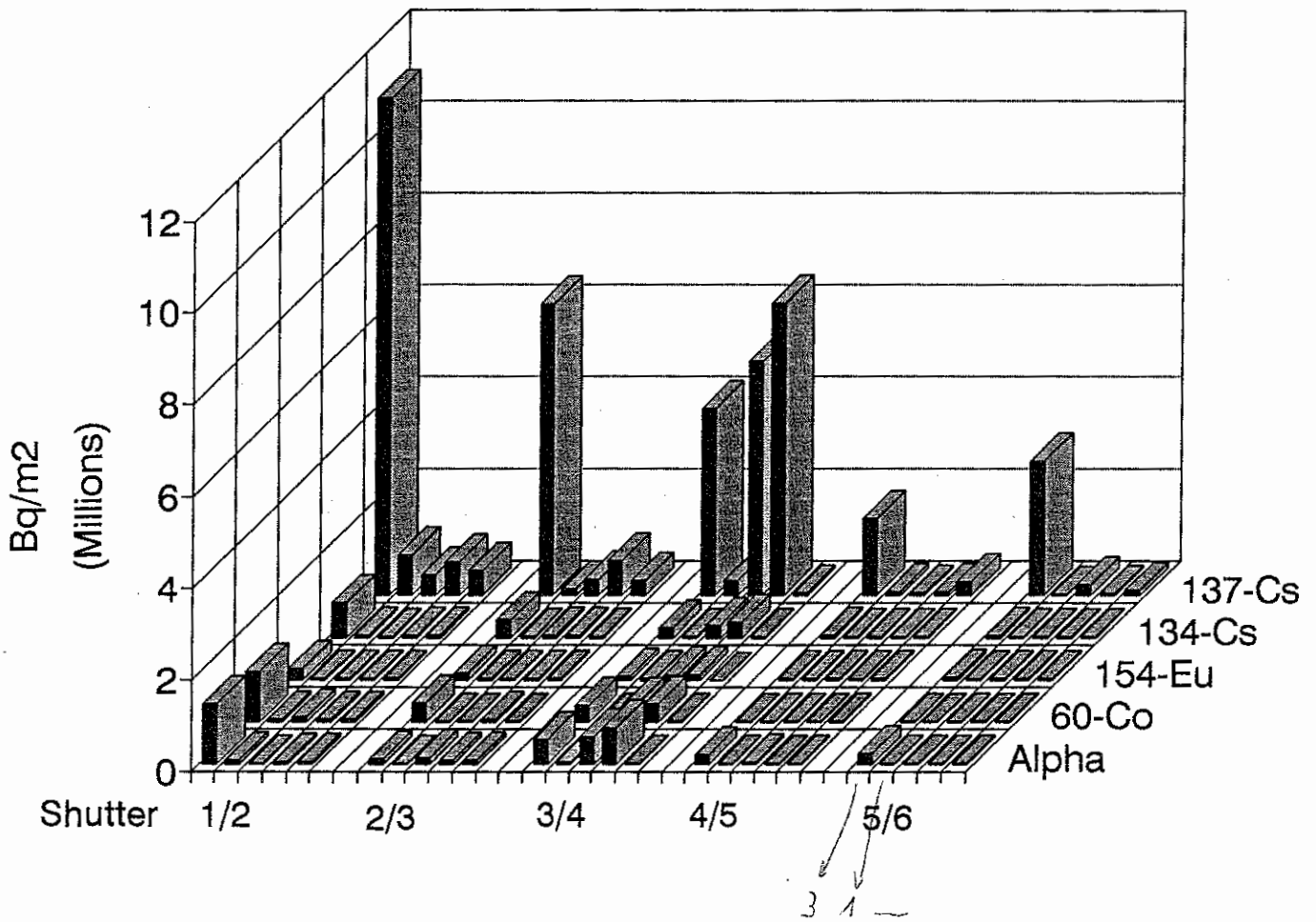
3: Shutter top

4: Shutter east

5: Shutter wall east

# Contamination on shutters (smear tests)

Tests/shutter in order 3, 1, 2, 4, 5.



# Collective doses

voor ~ 10 mensen!

Up to 1991	10-25	man-mSv/year
1991	43	- " -
1992	12	- " -
1993	?	- " -

→ normal operation

→ start of decontamination

# Remaining work

(toe minimaal 20 min binnen met deurbeschermer gedurende enkele uren)

cell 5 en 6



waarsch. Co<sup>2</sup>



vooral "hot spots" verwijderen

- Cleaning of cells 1-4 to acceptable levels;
- Removal of cell ventilation and filters;
- Cleaning of room ventilation system;
- Cleaning of rooms;
- Removal of active drains.



no subcontractors

24 Mly Deense kroon - Budget

Totale Staf - 14 man : blijft werken aan Deense. Niet goed gebouw renoveren

## Conclusion

- Time schedule OK;  
*→ niet geplande "wants" (is enige facility die "want" job kan uitvoeren)*
- Remember all waste material from all sites in planning (when being the only facility for waste handling);
- Build new large equipment in small modules;
- Taking old equipment into extensive use may cause break-downs (in-cell crane/powermanipulator);
- Old site-people *with* veneration knowing site versus new people *without* veneration;  
*may be delay-factor is zeer belangrijk (kenn alle details)*
- Frogman enthusiasme!
- Project performed without high doses and without sophisticated equipment.