

Joint exercises and training of law enforcers and radiation protection advisors for the defence against nuclear hazards in Germany – experience gathered at the federal level.

**Emily Kröger, German Federal Office for Radiation Protection, International
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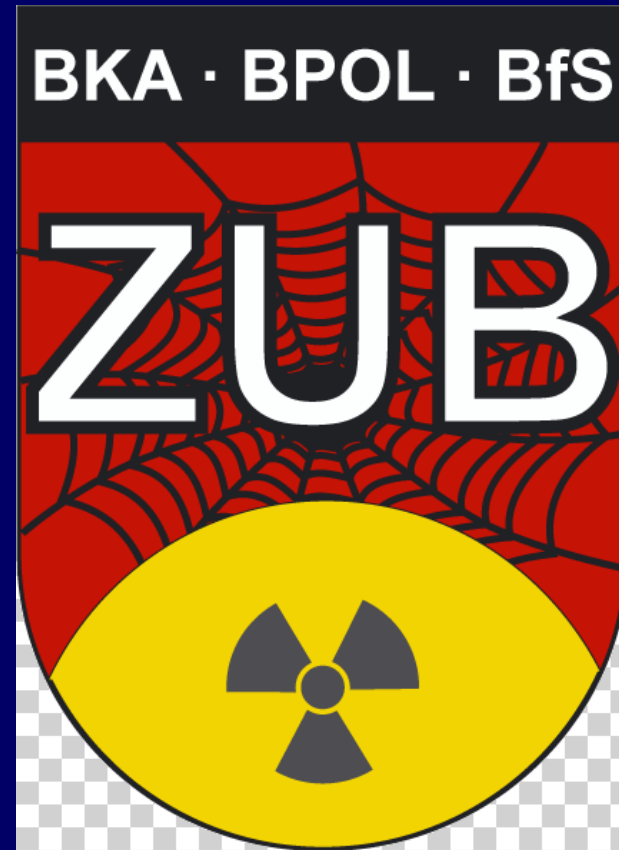
Talk structure

- Short introduction to the German defence against nuclear hazards
- The role of the German Federal Office for Radiation Protection in the ZUB
- ZUB training and exercises – general points
- Example of the ZUB exercise in Cologne
- Common exercise radiation protection issues
- Summary and comments

German federal structure

- 16 German federal states (Bundesländer)
- Each state has police and a radiation protection authority
- Most incidents are handled without intervention of the federal government
- State authorities remain in charge throughout, but can call on the ZUB.





The central support group of the German Federal government for serious incidents involving the defence against nuclear hazards (ZUB)

The role of the German Federal Office for Radiation Protection in the ZUB

- Advising policy-makers in all aspects of radioactivity (medical, protective measures, transport, press, etc.)
- Detection of radioactive materials, radionuclide determination, the estimation of activity levels and contamination measurements.
- Evaluation of radioactive materials and criticality risks.
- Estimation of radiological consequences following a detonation/dispersion and radioactivity predictions.

ZUB training and exercises – general points (1)

- Different types of training and exercises.
- Multitude of bilateral exercises and training, for example crime scene exercises, overt searches and covert searches.
- Every year there is a full ZUB exercise together with a different Bundesland.

ZUB training and exercises – general points (2)

- Exercises are vital for the ZUB to maintain and update skills, contacts and commitment at all levels.
- The lessons learned from the large-scale ZUB exercises have a profound effect on the future course of the ZUB.
- After an exercise, any problems are addressed by the relevant experts and proposals for new procedures and protocols are drawn up and tested on a small scale.

Example: ZUB exercise in Cologne

- Dirty bomb scenario (contamination simulated - sealed sources).
- Contaminated crime scene (simulated – sealed sources).
- Contaminated dead body (simulated – sealed sources).
- Mobile observation with radiation measurements.
- Decontamination and medical centres.
- Deployment of many (about 320) responders.
- Large press programme - over 100 international guests







Picture from the website “WDR.de”

Experience gathered by BfS (1)

- ZUB exercises are generally very enjoyable and successful in fulfilling the exercise aims.
- Radiation protection carried out by the BfS and the Bundesland authorities was effective for both the “exercise” and the “real” situations.
- **HOWEVER**; some lessons learned from this and previous exercises can be shared for best practise purposes...

Experience gathered by BfS (2)

- Distinguishing between a real radiation danger and an assumption that has been made as part of the exercise can be a problem (e.g. numerical factors).
- Communication about the presence/absence of radiation is essential (e.g. before an explosive detonation).
- Local police must be trained for radiological emergencies (including inter-agency training).
- Fire departments have to be trained for radiological emergencies (e.g. correct PPE).

Experience gathered by BfS (3)

- Care must be taken with measurement units!
- Advice from experts outside the ZUB/Bundesland is important (e.g. pathologists and psychologists).
- Timescale expectations of police and radiation protection experts can differ (joint training essential).
- The evaluation of press reports is important.
- The visitor programme should include police instructors.
- For an exercise in public spaces, unplanned measurements can occur (e.g. medical patients).

Summary and comments

- Exercises are one of the main methods for improving best practice in Germany.
- Problems highlighted can be dealt with by developing new operating procedures and training.
- Friendly working relationships between experts within the ZUB and Bundesländer are extremely important.
- The ZUB response capability is being constantly improved.
- International contacts to foreign authorities are important in order to exchange knowledge about best practice.

Thank you for your attention!
I am happy to answer any questions