Strål
säkerhets
myndigheten
Swedish Radiation Safety Authority

Regulatory Needs and Challenges in Nuclear Security

Experience in the use of INFCIRC/225 as the Basis for Establishing National Regulatory Requirements for Nuclear Security in Transport

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IAEA GC Senior Regulators Meeting
Vienna, Austria, 25 September 2014

Transport of Class 7 Radioactive Materials in Sweden

- Fissile materials including spent reactor fuel
- Radioactive waste from nuclear installations
- Radioactive sources used in medicine, industry and research

The Swedish Radiation Safety Authority (SSM) is the competent authority for all modes of Class 7 transports in Sweden under the Transport of dangerous goods legislation

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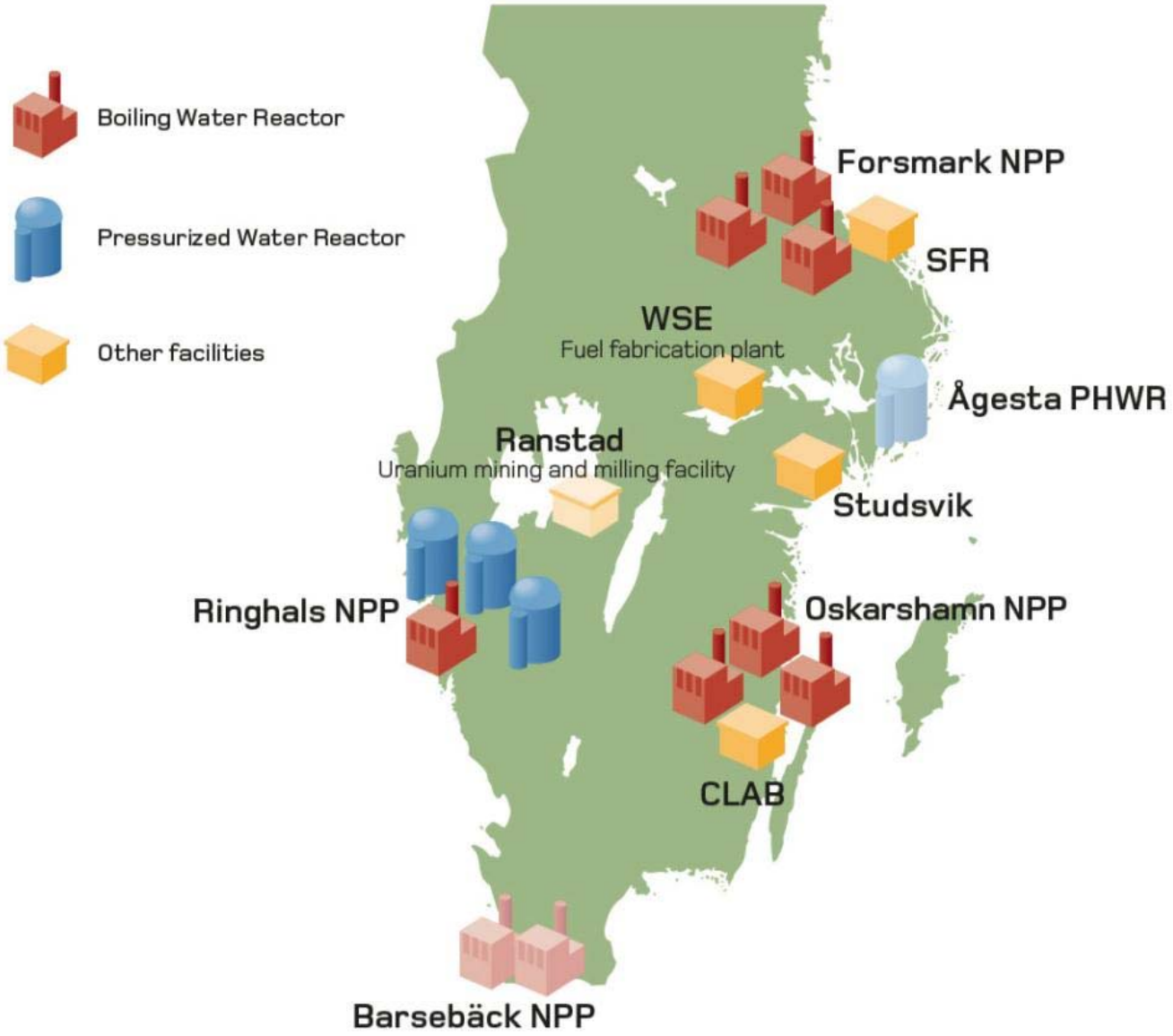
Nuclear Facilities in Sweden



- Ten reactors in operation
- Three closed down reactors (Barsebäck + Ågesta)
- Research reactors under decommissioning (Studsvik)
- Waste treatment facilities (Studsvik)
- Central interim storage facility for spent fuel (Clab)
- Final repository for short-lived LIL waste (SFR)
- Fuel factory (WSE)
- Closed down uranium extraction facility (Ranstad)

Nuclear Facilities in Sweden

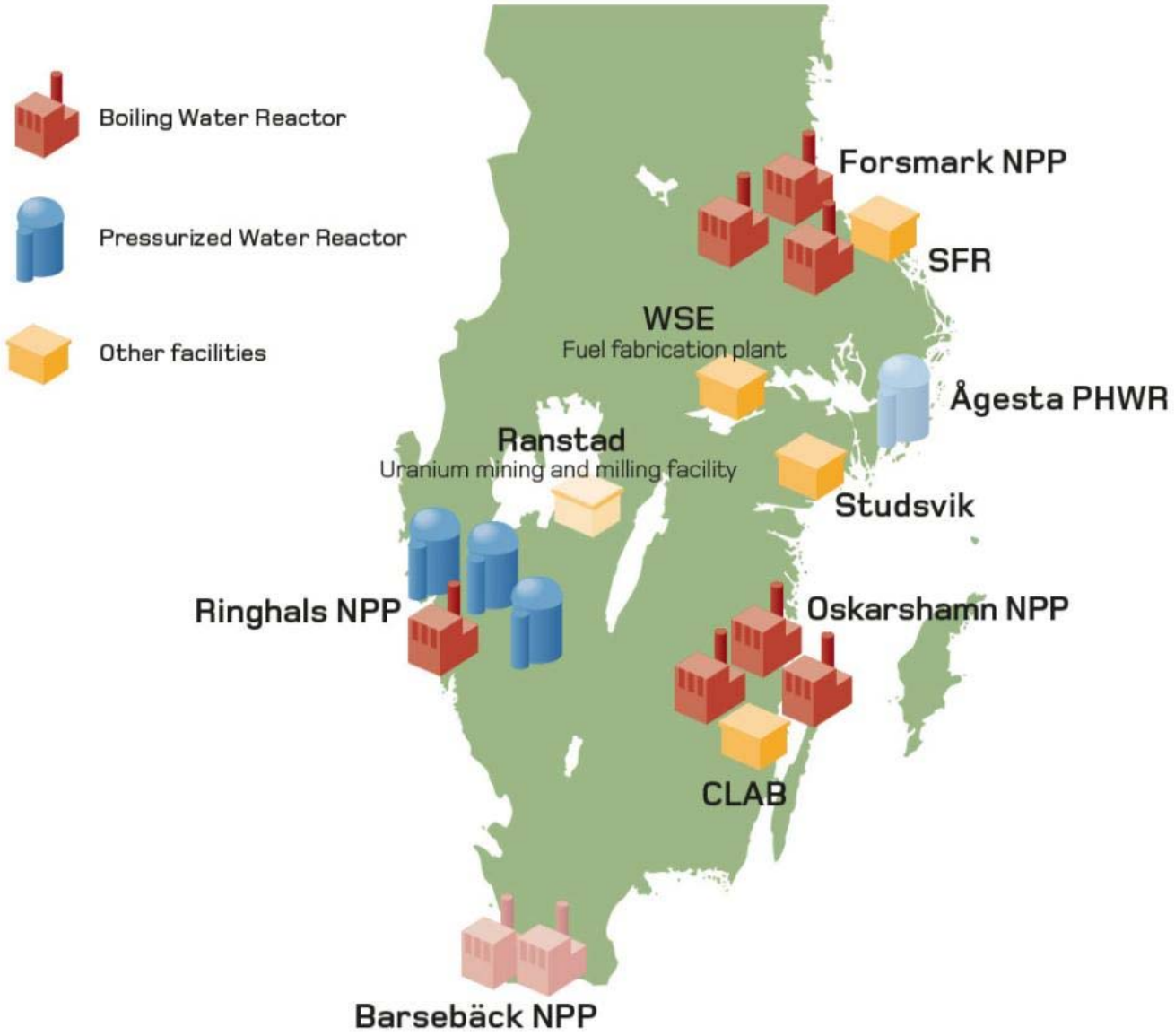



Photo: SKB


Photo: SKB


Photo: SSM

Key Findings – Threat to Nuclear Facilities and Transports of Radioactive Materials

- Establish a national co-operation council
  - Threat analysis
  - Design Basis Threat (DBT)
  - Ensure more effective protection
- Strengthen response capabilities
  - On-site
  - Off-site

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SSM Regulations Oversight Project

- All regulations related to nuclear activities and radiation protection
- More consistent and comprehensive regulations
- Clarify and broaden regulations in order to
  - create more predictability for the licensees and
  - improve the regulatory support for SSM in its supervisory activities
- Highlighted during 2012 IAEA full scope IRRS
- Licensing of new NPP's

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Revised Regulations on the Physical Protection of Nuclear Facilities

- More detailed requirements vs previously more functional requirements
- Dual purposes – measures against unauthorized removal and sabotage
- Goals for the physical protection function
- A graded approach
- Defense in depth concept
- Armed security guards / protection force at NPP's
- More advanced cyber security requirements

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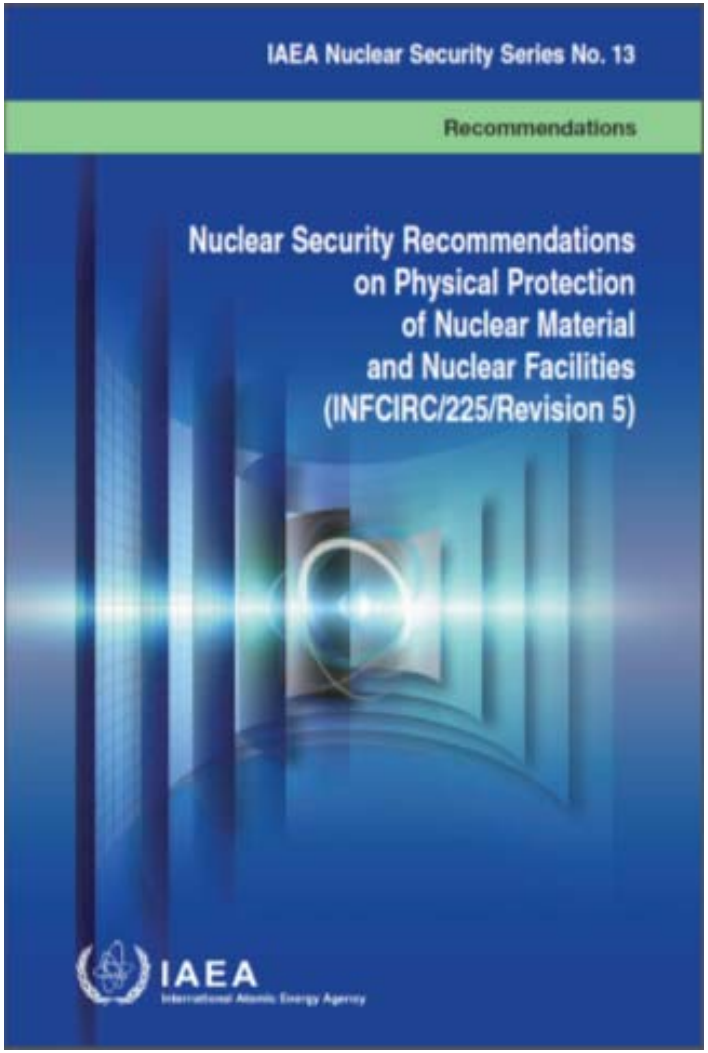
Regulations on the Physical Protection of Transports of Nuclear Materials

- INFCIRC/225/Revision 5
- Regulatory challenges



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Transport Security – Regulatory Challenges

- Graded approach based on consequences
- Aggregate nuclear materials to determine category
- Varying times and routes
- Trustworthiness in the transport chain
- Secure communications
- Threat analyses and DBT
- Shipper, carrier, receiver
- Road, rail, sea, air
- Contingency planning

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Pilot Exercise on Transport Security in Sweden

- Support IAEA Division of Nuclear Security
- Draft IAEA Handbook – *Model on exercise on security in transport of nuclear material*
- Table top exercise in February 2015
- Full scale field exercise in May 2015
- Scenario – threat to sabotage spent nuclear fuel transport at sea
- Swedish stakeholders
- International observers


Photo: SKB

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Summary

- IAEA peer review services (IPPAS)
- IAEA recommendations (INFCIRC/225/Revision 5)
- Importance of exercises, training, competence
- National cooperation and coordination
- International cooperation
- Regulations on transport security

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