

R2D2P Workshop on Transition Phase

National Presentation

Wenjun CHEN

Support Center of China Atomic Energy Authority

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- Regulatory Systems
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Regulatory Systems

- CAEA (China Atomic Energy Authority)
 - *Nuclear Safety Regulation Office (NSRO)*
 - *Support Center of CAEA*

- CEPA (China Environment Protection Agency)
 - *National Nuclear Safety Agency (NNSA)*
 - *Nuclear and Radiation Safety Center*

Regulatory Systems (Cont.)

■ Main Roles of CAEA

- Policy Maker : Nuclear energy related Laws, National Strategies and Safety Standards.
- Counterpart : International communication.
- Promoter : Promote the development and application of nuclear energy for peaceful purposes in China (NPP, RR & FCF).
- Regulator : Nuclear safety regulation (NSRO).

Regulatory Systems (Cont.)

■ Main Roles of CEPA

- Policy Maker : Environment related Laws, National Strategies and Safety Standards.
- Regulator : Environment protection regulation, includes nuclear safety regulation (NNSA).

■ Difference as Regulators

- CEPA(NNSA) : focus on NPPs and RRs;
- CAEA(NSRO) : focus on FCFs and RRs.

Current Status of RR

■ Research Reactors Existed

- Constructed in the last century, mainly in 1960s-70s;
- Most operated by CIAE & CINPR, a few by universities;
- RRs are facing the problem of continuous ageing (SSCs), the inherent safety level are becoming lower.

■ New Research Reactors

- Several Research Reactors are in the phase of design or construction, for instance, CARR.

Regulation on RR

■ Phases for Research Reactor

- Siting
- Design
- Construction
- Commissioning
- Operation
- Decommissioning

Regulation on RR (Cont.)

- Licenses for Research Reactor
 - Siting License
 - Construction License
 - Loading & Commissioning License
 - Operation License
 - Decommissioning License

Decommissioning of RR

■ License Procedure

- The Decommissioning License is required (compulsory);
- Operator submit the detailed Decommission Program, Environment Impact Analysis Report, Safety Analysis Report, Quality Assurance Program and so on;
- Regulatory body scrutinize all the above mentioned documents and make some investigations, then decide whether to issue the Decommissioning License or not.

Decommissioning of RR (Cont.)

■ Financial Support

- Operator makes and submits a decommissioning budget to the central government (CAEA);
- Central government scrutinize the budget, and generally will bear most of the budget if it is approved.

■ Staff

- Basically from the original staff, mainly the Operating Maintenance persons.

Decommissioning of RR (Cont.)

■ Radioactive Waste Management

- LILW

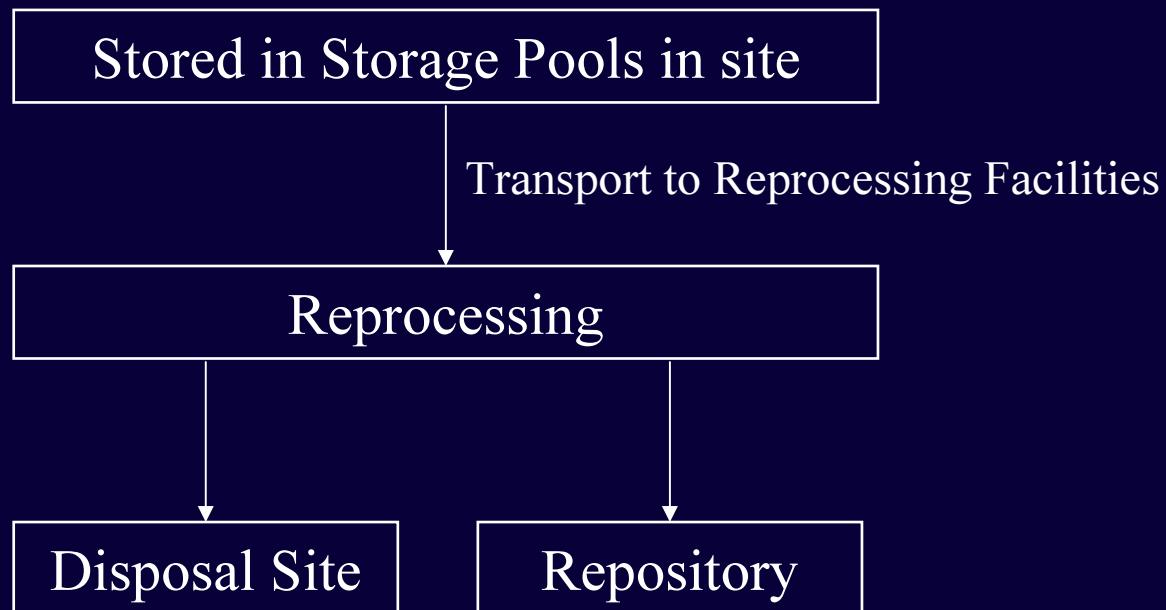
- ▶ Near Surface Disposal Strategy;
- ▶ 2 Disposal Sites in operation: Northwest Disposal Site & Beilong Disposal Site.

- HLW

- ▶ Geological Disposal Strategy;
- ▶ Repository is in the Phase of Siting;
- ▶ Reprocessing facility is in construction.

Decommissioning of RR (Cont.)

- Spent Fuel



Conclusion

- Many of the Research Reactors in China will enter the phase of Shutdown or Decommissioning;
- Experience in decommissioning of RR is lacked;
- Good practices and lessons learned in other countries are precious to us;
- R2D2P Workshop is helpful to us.

Thank You

for your attention