



生态环境部（国家核安全局）

Ministry of Ecology and Environment (National Nuclear Safety Administration)



NNSA's current preparations for decommissioning regulation

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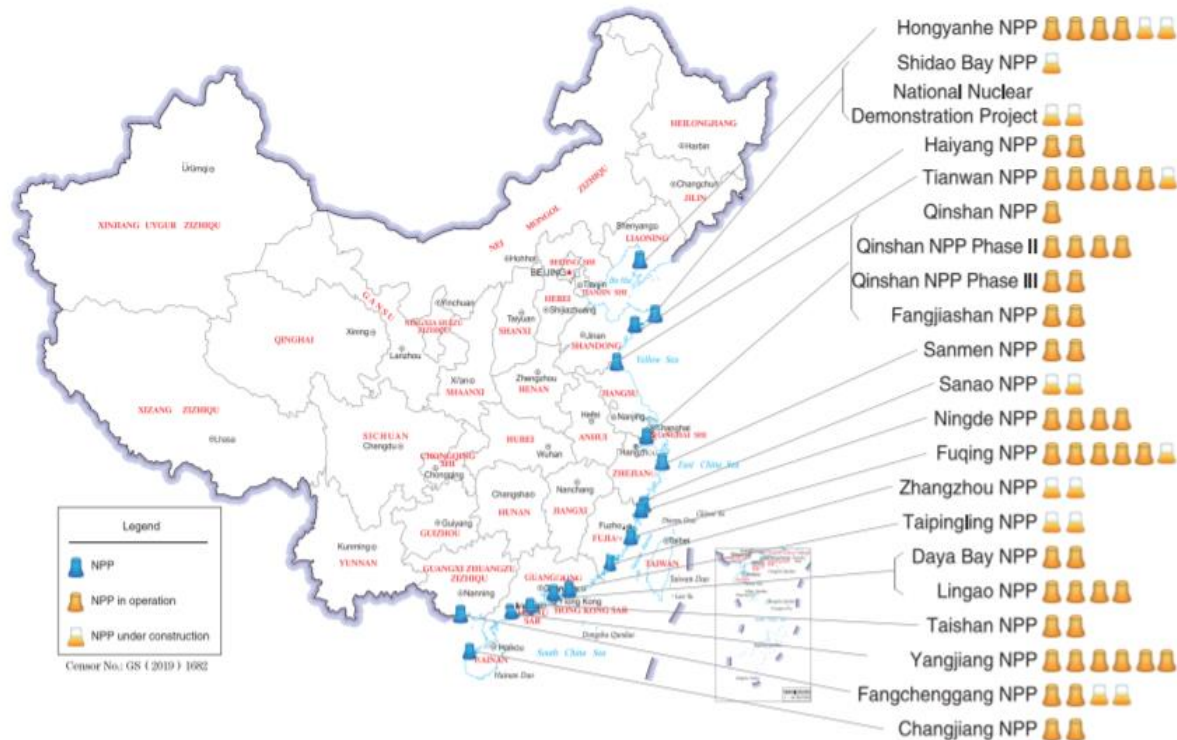
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Background

Rapid development of NPPs and nuclear technology utilization industry in mainland China



By the end of 2020

- ◆ 49 operating nuclear power units
- ◆ 15 underconstruction nuclear power units
- ◆ 149,000 radioactive sources and 205,000 sets of irradiation devices



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Decommission facilities

Research reactor

- Shanghai miniature neutron source reactor decommission in 2010
- Jinan miniature neutron source reactor decommission in 2012

RW storage facility

- Pinggu RW storage facility decommission in 2007

Site Release

- In Qinghai Province, Xihai Town, site is unrestricted used(1993)





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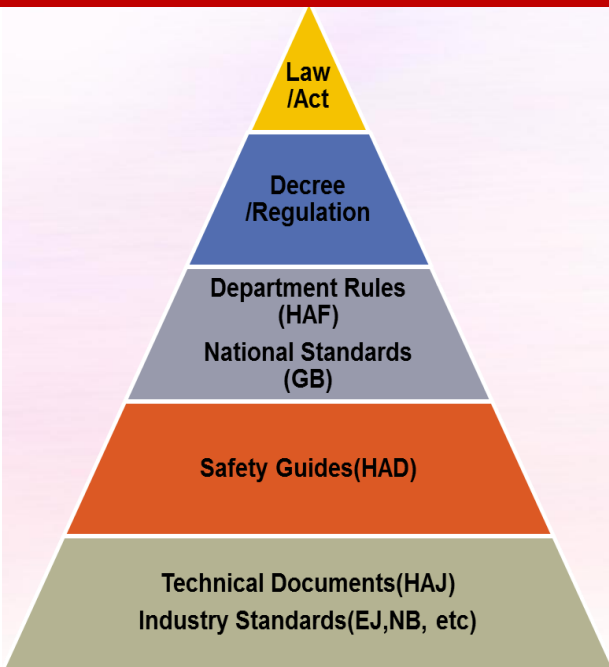


Regulatory requirements



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Nuclear Safety Act

After the nuclear facility stop operating, the nuclear facility operator shall took a safe attitude to conduct the shutdown management, ensure the safety during the closure period, and ensure the basic functions, technical personnel and documents required for decommissioning.



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Before decommissioning, the operator shall *submit an application* for decommissioning to the nuclear safety regulatory body, including documents below :

- (1) An application for decommissioning ;
- (2) Safety assessment report;
- (3) Environmental impact analysis report;
- (4) Quality assurance documents;
- (5) *Other documents* as stipulated by laws and administrative regulations.



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The operator shall dispose radioactive material at the site with the principle of as low as reasonable practicable , and clear structure, system and equipment to meet the requirements of the standard.

After the completion of the decommissioning, the site should be monitored by the *local environmental protection department*.

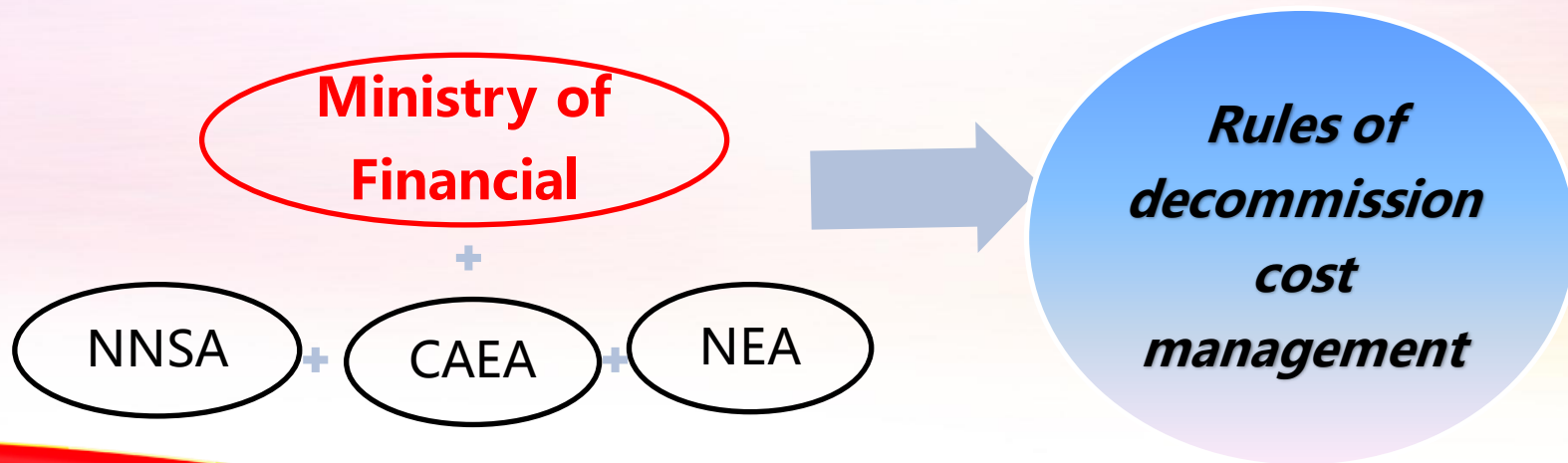


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The operator shall prepare for the nuclear facility decommissioning expenses and radioactive waste disposal costs, that should be included in the investment budget or production costs.





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Guides and standards about decommissioning

Title	Serial No.
Basic standards for protection against ionizing radiation and for radiation sources	GB18871-2002
Research reactor and critical device decommissioning	HAD202/04
Decommissioning of nuclear technology utilization facility	HAD401/14
Safety requirement of nuclear facility decommissioning	GB/T 19597-2004
Technical regulation for environmental management of reactor decommissioning	GB/T 14588-2009
Regulation of radiation protection of reactor decommissioning	GB 11850-1989
Acceptable levels of residual radio nuclides in soil of site considered for release (Interim regulation)	HJ53-2000
Safety assessment of decommissioning of nuclear facility	HAD401/15
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Summary of some important technical requirements for decommissioning

1. Decommissioning target and dose constraint

- Decommissioning final stage objective should be based on the purposes of use of site.
- Administrative management should be taken for the restricted use to meet the requirement of dose constraint.
- Dose constraint value should be within the limits of 10% ~ 30% of public dose limit (0.1 mSv/a ~ 0.3 mSv/a), but should not replace the requirement of optimization.



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Summary of some important technical requirements for decommissioning

2. Radiation residues in soil

For the sites which will be released for restricted use, the residual radioactivity level in soil could be calculated, base on the use of the release site and the exposure pathways .

3. Radiation monitoring in decommissioning process and final stage

- Monitoring during the decommissioning process runs through the entire decommissioning process, directly affecting the progress and the quality of decommissioning
- Final monitoring would be mainly to check that the concentration of nuclides in soil should be lower than the residual radioactivity level approved.



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Current preparations



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What we lack ?

- ◆ A detailed administrative procedures for approval of decommissioning
- ◆ Format and content requirements for documents applied for decommissioning
- ◆

problem

Developing specific regulatory requirements

- ◆ Department rule about decommissioning management
- ◆ Some new guides

solution



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Guides and standards about decommissioning in draft

- ◆ Acceptable levels of residual radio nuclides in soil of site considered for release (Interim regulation) (HJ53-2000) (in revising)
- ◆ Format and content of EIA for nuclear facility decommissioning
- ◆ Format and content of SAR for nuclear facility decommissioning
- ◆



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Research about decommissioning

- ◆ Method of regular assessment of decommissioning costs
- ◆ Decommissioning group
- ◆ Industrial risk during decommissioning
- ◆ Focus on decommissioning in world (especially the solution to difficulties)



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Thank you