



**TH37: Reactor Decommissioning Rulemaking  
- Path to Regulatory Efficiency**

*"The 1997 License Termination Rule for  
Power Reactors"*  
Bruce Watson, CHP  
Chief, Reactor Decommissioning Branch

1

---

---

---

---

---

---

---

---



**Topics**

- Current Power Reactor Decommissioning Process
- Decommissioning Options
- 60 Years
- Post Shutdown Decommissioning Activities Report (PSDAR)
- Public Involvement in Decommissioning
- Closing Remarks

2

---

---

---


---

---

---

---

---



**The Current Reactor Decommissioning  
Process**

- Notification of Intent to Permanently Shutdown
- Submission of Certifications of Permanent Shutdown and Permanent Removal of Fuel from Reactor Vessel
- Submittal of Post Shutdown Decommissioning Activities Report and NRC Public Meeting
- Licensee has 60 Years to Complete Decommissioning
- License Termination Plan is submitted 2 years prior to requesting license termination (NRC Public Meeting) and approved by license amendment
- NRC terminates the license by letter

3

---

---

---

---

---

---

---

---

USNRC **RIC** 2016  
Protecting People and the Environment

### Bases for the 1997 License Termination Rule

- Risk-informed and performance-based
- Incorporated Lessons Learned from previous Reactor Decommissioning Projects
- No need to have NRC prior approval of a Decommissioning Plan/use 50.59 process
- Lower Risk to Public/Offsite Radiological Release
- Changing Staff/Knowledge Management

4

---

---

---

---

---

---

---

---

USNRC **RIC** 2016  
Protecting People and the Environment

### Decommissioning Options

- DECON – Immediate Dismantlement
- SAFSTOR – Deferred Dismantlement (Flexibility of DECON and SAFSTOR)
- Entombment – US History and IAEA Draft Entombment Position Paper

5

---

---

---

---

---

---

---

---

USNRC **RIC** 2016  
Protecting People and the Environment

### Why 60 years to Terminate the Power Reactor License?

- 60 Year Bases – 50 years for radioactive decay + 10 years to complete the decommissioning
- ALARA
  - Dose Rate Reductions
  - Radwaste Volume Reductions
- Reasonable time for Institutional Controls
- Overall costs of decommissioning as a function of time

6

---

---

---


---

---

---

---

---



### Post Shutdown Decommissioning Activities Report

- Allows flexibility for licensee to make informed decommissioning decisions
- Decommissioning Strategy and Schedule
- Decommissioning Estimated Costs
- Environmental Impacts
- Informs NRC, State and Public on key issues
- Assists NRC to determine oversight resources
- Publicly Available, including Revisions
- Is not a federal action, NRC does not approve the PSDAR

7

---

---

---

---

---

---

---

---



### Post Shutdown Decommissioning Activities Report

- Is the PSDAR content and level of detail adequate?
- Evaluate the need for NRC Approval
- Role of the State Governments and Stakeholders in the PSDAR Process

8

---

---

---

---

---

---

---

---



### Public Involvement in the Decommissioning Process

- Atomic Energy Act, as amended provides for NRC Authority as an independent safety and security regulator
- State Legislatures/Public Service Commissions
- NRC encourages Citizen Engagement Panels or Advisory Boards / Industry Good Practice
- What is the appropriate role?

9

---

---

---

---

---

---

---

---

USNRC **RIC** 2016  
Protecting People and the Environment

### Closing Remarks

- Decommissioning rulemaking is a resource intensive and arduous task
- Numerous regulations, regulatory guides, and NUREGS may require changes
- 2019 Goal to complete is challenging
- Expect significant public comments
- Need to revisit Backfit issues

10

---

---

---

---

---

---

---

USNRC **RIC** 2016  
Protecting People and the Environment

### Looking forward to your questions!

11

---

---

---

---

---

---

---