



# NRC's role in power uprates

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May 27 – LSU UPRISE Meeting

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# Why?

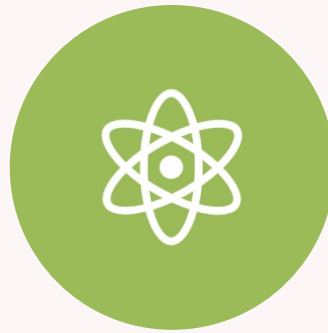
- Data center growth and high-density load demand
- Industrial electrification priorities (and process heat!)
- Fleet modernization and life extension. License renewal makes power uprates possible.

*NRC approved 13 reactor license renewals in 2025 alone. Keeping 12,000 MW on the grid over the next 20 years.*

# NRC Initiatives Supporting Capacity Expansion



REVIEWING  
FEASIBILITY OF 24-  
MONTH  
OPERATING  
CYCLES



ADVANCED  
NUCLEAR FUEL  
QUALIFICATION



UPDATED  
GUIDANCE FOR  
RISK-INFORMED  
REVIEWS

# Engagement with Industry & Government



PROACTIVE  
COORDINATION  
WITH DOE AND  
INDUSTRY FOR  
UPDATE  
PLANNING



CROSS-AGENCY  
ALIGNMENT TO  
SUPPORT  
ECONOMIC AND  
GRID NEEDS



EARLY  
ENGAGEMENT  
PATHWAYS FOR  
NEW UPDATE  
PROPOSALS

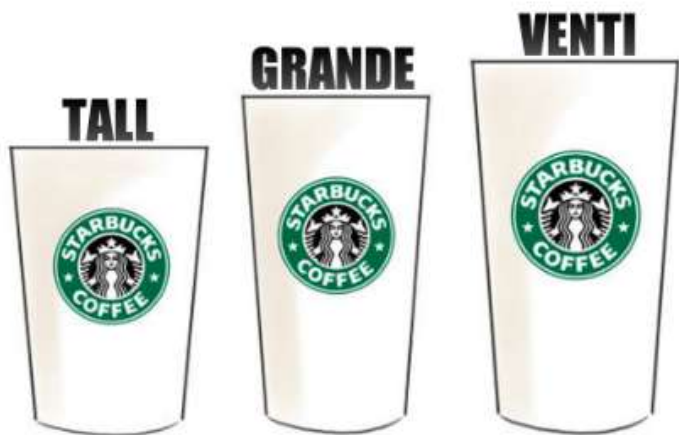
# Impact of power uprates

*Over 170 power  
uprates approved to  
date added 8,000  
MW Electric the grid!*

*Over 30 uprates  
planned over the next 5  
years for at least 2,500  
MW Electric added!*

Industry data indicates much more...!

# Types of uprates



TRENTA?

**Measurement Uncertainty  
Recapture (MUR). Up to 2%**

**Stretch Power Uprate  
(SPU). Up to 7%**

**Extended Power Uprate  
(EPU). Up to 20%**

# Speed, scope, and depth of review

## Review Timelines

- **MUR:** 6 months
- **SPU:** 9 months
- **EPU:** 12 months

## Graded Approach for issues

- **Bin 1:** Minimal Review
- **Bin 2:** Limited Review
- **Bin 3:** Comprehensive Review

*Bundling saves time*



# Process enablers

Judicial  
Engagements with  
ACRS

Streamlining of  
Signature  
Delegation

Internal  
Dashboards and  
Updating SE  
Templates

AI Tools and  
improved  
guidance

Ongoing Engagement  
with Stakeholders

- Pre-Application Meetings, Audits



# 24- month fuel cycle

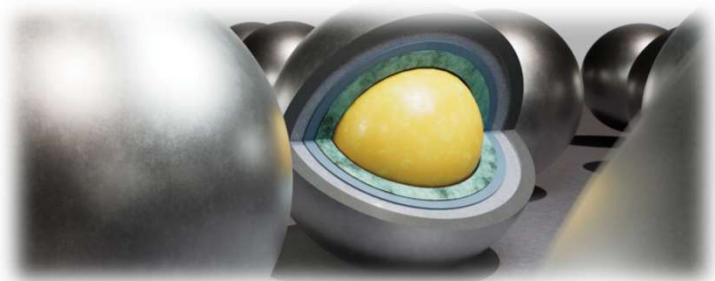
BWRs pursuing EPU with 24-month cycles -  
existing guidance applicable

Some PWRs pursuing 24-month cycles based  
on doped fuel (increase density)

Other PWRs pursuing 24-month cycles (plus  
an EPU) based on **increased enrichment** and  
**higher burnups**

Revised **dose consequences** guidance

# Advanced fuels



The NRC is prepared to review and qualify a wide range of advanced nuclear fuels.

- Ceramic Cladding Materials
- TRISO Fuels
- HALEU Fuels
- Molten Salt Liquid Fuels
- Spent Nuclear Fuel
- Metallic Fuels