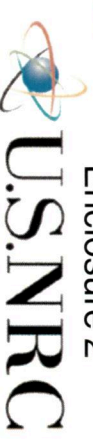


Thermal Conductivity Degradation & Babcock & Wilcox Nuclear Power Plants

Benjamin T. Parks, Senior Reactor Engineer
Nuclear Performance & Code Review Branch

Enclosure 2



United States Nuclear Regulatory Commission

Protecting People and the Environment

Purpose/ Objectives

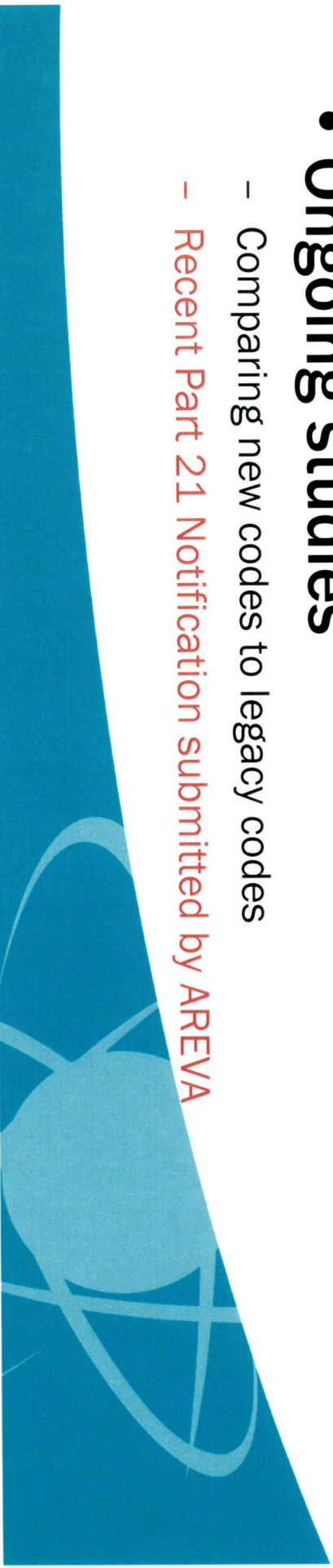
- Provide background on a 10 CFR 21 Notification about *thermal conductivity degradation (TCD)*
- Discuss staff actions to verify safe plant operation
- Discuss licensee and vendor actions to ensure continued compliance with 10 CFR 50.46 requirements



Background: TCD



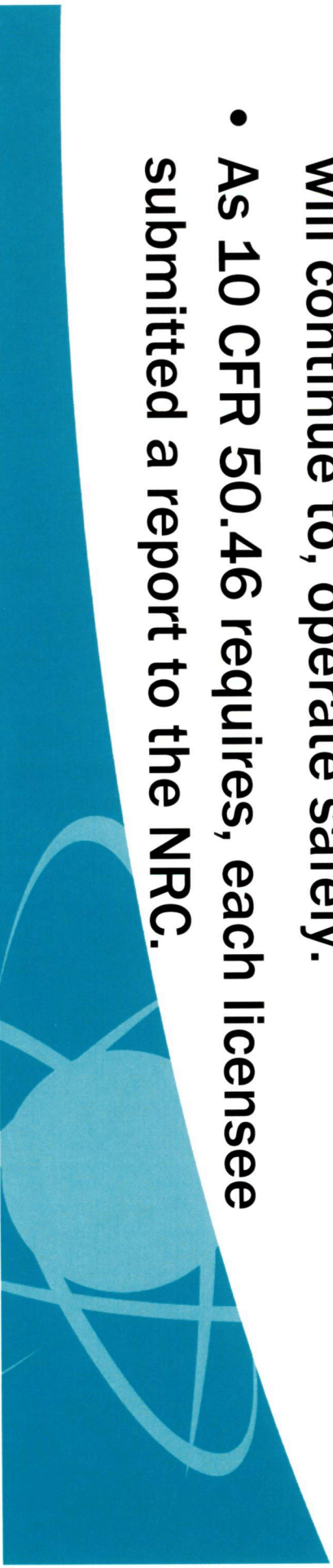
- Information Notice 2009-23, “Nuclear Fuel Thermal Conductivity Degradation”
 - Fuel performance codes and *downstream safety analysis methods* may be less conservative than previously understood.
- **Industry response**
 - Develop state-of-the art fuel performance codes
 - Apply *augmentation factors* to legacy codes
- **Ongoing studies**
 - Comparing new codes to legacy codes
 - Recent Part 21 Notification submitted by AREVA



Part 21 Notification



- **AREVA notified NRC of a defect in its BWNT LOCA evaluation model on December 16, 2014.**
 - TCD effects had been studied previously
 - A new fuel performance model showed that previous TCD modeling was in error
- **All affected licensees took corrective actions and reviewed past operation to ensure they had, and will continue to, operate safely.**
- **As 10 CFR 50.46 requires, each licensee submitted a report to the NRC.**



Staff Response



- NRC staff verified that licensees' compensatory measures were adequate to ensure public health & safety.
- NRC staff is reviewing each licensee's 10 CFR 50.46 report.
 - Additional information required from each licensee to complete review.



Questions



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