



Reed College

10 CFR 50.59

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Reed at a glance

- 1 400 Students
- ~60k/year to attend
- 10:1 student to faculty ratio
- All students write a thesis
- Nuclear reactor with 40 student operator (~15 SRO's and ~25 RO)
- The Reed community embraces and supports the reactor

Reactor Culture

- Interested students attend a training seminar typically start with 60 to 70 students
- End of November they apply to be selected for continued training (receive about 20 applications)
- View success as number of candidates licensed
- Only the Director and Associate Director approved tours, experiments, operations and complete 50.59 screenings and evaluations
- RO's and SRO are **taught to use the SOP's**. The SOPs are **extremely detailed**, and can be used **without understanding why**.

Other Circumstances

- In Timely renewal- RAI about core parameters/ thermal hydraulics
- UA's SS clad Fuel becomes available
 - Requires a License amendment
- Director Position is open

The timeline

- 1/4/2011 Amendment for UA Fuel is received
- Jan 11-25, 2011 Request to the Reactor Review Committee for a “core loading experiment” This configuration “is not critical” and cannot achieve 5 watts with rods full out There is some fuel shuffling with the same result
- 2/2/2011 The Committee is solicited to modify the approved experiment to add fuel in 5 element increments, It is approved via phone and email. Core loading continues in 5 element increments until an additional 15 elements are added
- 2/6/2011 CE, SDM, Power calibration are completed
- On 2/16/2011 the core is in use for a thesis experiment (central beam experiment)
- All fuel is shipped out and New Director arrives in June
- 8/3/2011 I received a phone call from the NRC requesting a letter confirming that we are using SS clad fuel only.

What about the 50.59?

- A 10 CFR 50.59 Screening is completed (SOP 62)- screened out
- Justifications
 - TS allow for either AL or SS clad fuel without respect to number or location
 - SS is a more durable
- Screening form is dated 4/26/11, It contains a paragraph stating that the “analysis was performed on Jan. 11, 2011 prior to replacing the AL fuel

Challenges

- The justifications for the screening were sparse.
- There was a Core Analysis and Thermal Hydraulic analysis being completed for the relicensing RAI's.
- Does this activity screen in or out?
 - Request to the committee
- Is the NOV a function of training? Or Culture? Or both

What changed after the NOV

- The SOP 60 (maintenance) and 62 (changes test and experiments) were modified.
 - Example of answers were added to guide screening process
 - ALL SRO's will now be able to document screenings and evaluations. Director and Operations Manager still have oversight and final approval
- Special experiment for core loading has become a training lab.

Questions

