

**From:** Anthony Uises  
**To:** Amy Cabbage; Undine Shoop  
**Date:** Tue, Jul 17, 2001 3:14 PM  
**Subject:** PBMR Physics Issues - Short, Short List!

WRP

Hmm!

1. How tightly coupled is the core?
2. How does one model the power distribution in the core? What level of detail is needed?
3. How does one model the power inside the balls? How is burnup modeled?
4. What is the effect of graphite balls escaping from the central region of the core? Will there be hotspots?
5. Without any burnable poisons, is there a local power peaking effect from the introduction of fresh fuel?
6. What reactivity transients are credible?
7. What effect would water or lube oil ingress into the system have on the reactor power?
8. How are radiation source terms derived for fluence and materials degradation analyses?
9. What type of instrumentation is appropriate?

Sorry for the short list,

Tony

6/29