

Stakeholder Outcomes: Task 3

C. Jensen, J. Parry, D. Wachs

DOE NE Transient Benchmarking IRP Meeting
May 25, 2016

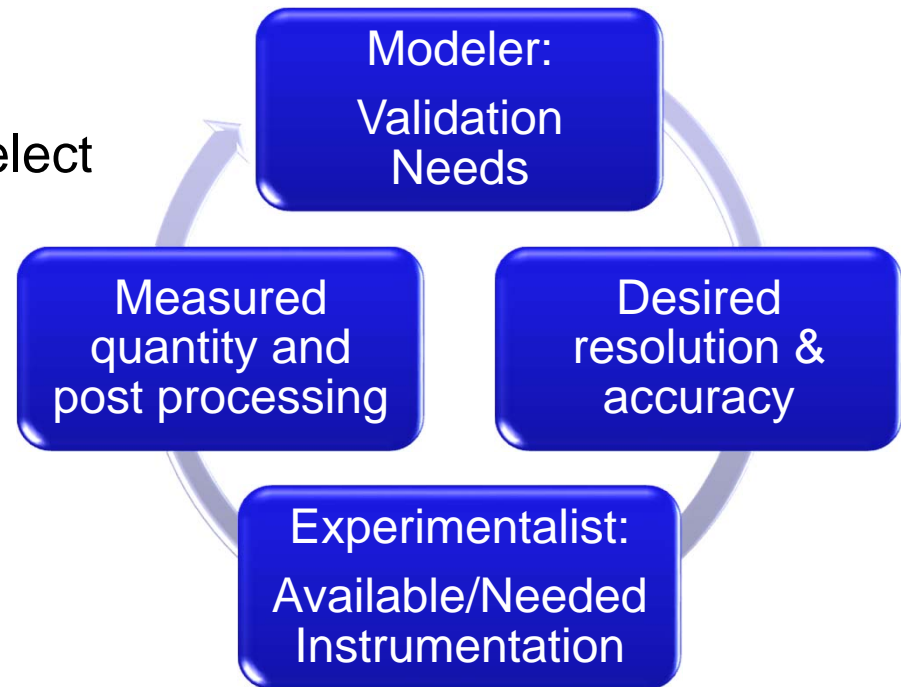
www.inl.gov



Task 3 Summary

- Focus is on core instrumentation for physics model benchmarking purposes
 - Driven by model validation needs
 - Not required for restart – cannot interfere with current systems
 - Ultimate goal is characterization of test specimen conditions

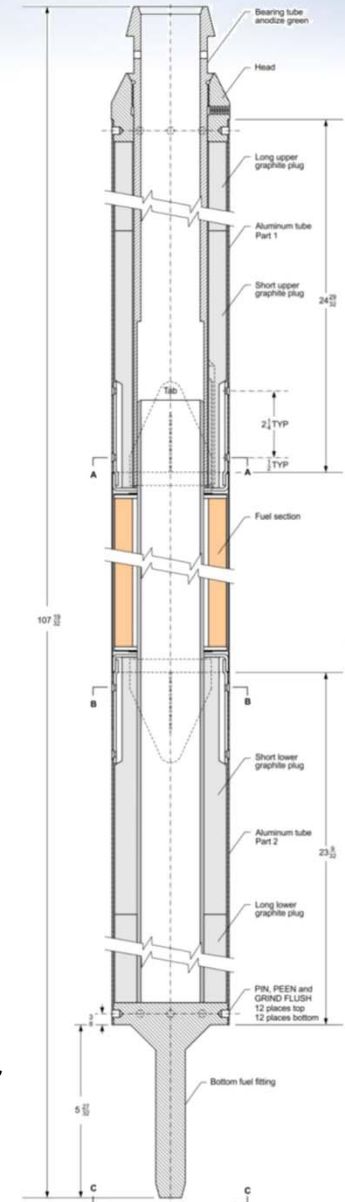
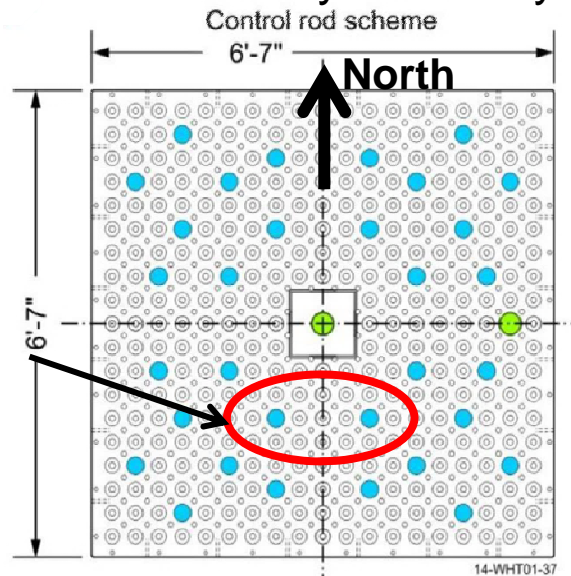
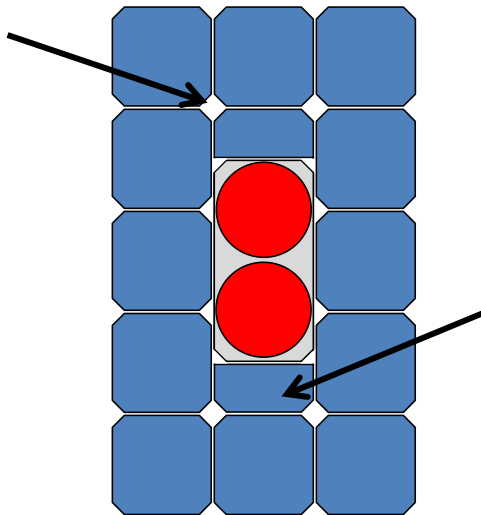
- Goals for Benchmark Evaluation
 1. Instrument survey and downselect for power, temperature, flux (neutron/gamma)
 2. Calibration in MITR/OSTR
 3. Demo in TREAT / TREAT benchmark test plan



“Ideal” Experiment

Experimental Opportunities

- Near experiment locations are priority – M8-Cal vehicle, empty control rod positions, **coolant channels, vertical access hole assembly**, potential for non-fueled half-dummy assembly



- Ex-core measurements - empty instrument holes, possible comparisons to TREAT instruments
- Thermal as well as nuclear measurements are important
- Interest in performance of alternative in-core, low-profile nuclear instruments
- Refer to “Task 3 Stakeholders Outcomes” from kickoff meeting

Additional Points of Discussion

- Coordination with other reactor testing efforts:
 - UW/KSU/Ohio St.
 - IGR/TREAT
- Schedule opportunities:
 - Encourage utilization of TREAT
 - TREAT Restart test plan to be developed
 - Measurement location could require minor core reconfiguration
- Action items for INL team:
 - Provide information about experiment DAS
 - Provide data for selected transients
 - Check on possibility of MIT evaluation of TREAT backup ion chambers
 - INL co-author instrumentation test plan (FY16)
- Other:
 - TREAT physics testing “wish list”