

Summary of the Meeting of the Joint Benchmark Committee

November 17, 2002

Washington, DC

The Joint Benchmark Committee (JBC) of the American Nuclear Society met on Sunday, November 17, in the Embassy Room of the Omni Shoreham Hotel. The meeting was called to order by JBC chair Barry Ganapol of the University of Arizona at approximately 11 a.m. Five other JBC members were present: Russ Mosteller of Los Alamos National Laboratory (RPD co-chair), Steve Baker of Transware Enterprises (RPD member), Charles Rombough of CTR Technical Services (RPD member), Richard Sanchez (MCD member) of CEA Saclay, and Robert Singleterry (MCD member) of NASA Langley. No RPSD members of the committee attended.

Eight other people also attended the meeting. They included Roger Blomquist and Temitope Taiwo of Argonne National Laboratory, Forrest Brown of Los Alamos National Laboratory, Benoit Dionne and Ali Haghghat of the University of Florida, Jess Gehin and Dan Ingersoll of Oak Ridge National Laboratory, and Dom Napolitano of NISYS Corporation.

The summary of the June 2002 meeting, prepared by Hamilton Hunter of Oak Ridge National Laboratory (RPSD co-chair), was approved by a voice vote. Russ distributed a matrix of the JBC members, organized by division and last year of membership on the committee. Any further changes or corrections to that information should be reported to Russ.

The following items were discussed:

RPD Items

- (1) Russ summarized the set of three light-water-reactor (LWR) lattice benchmarks, which is a slight revision of the set that was developed a few years ago by the Ad Hoc Committee on Reactor Physics Benchmarks. These benchmarks had been distributed electronically to JBC members prior to the meeting, and the RPD members had been polled in advance. Charles Rombough recommended approval of the benchmarks, while Steve Baker suggested a few minor changes for clarification. Russ and Charles agreed to those changes. Unfortunately, only half of the twelve members of the JBC were present, and the JBC charter sets two requirements for approval of a benchmark, (a) approval by $\frac{3}{4}$ of the voting members, and (b) approval by a majority of all JBC members. Accordingly, a revised version of the proposed benchmarks will be distributed electronically to all JBC members for a formal vote.
- (2) Russ also recommended that future RPD benchmarks follow the general format of the proposed LWR benchmarks, and those present concurred. That general format is as follows:

Section 1: Introduction
Section 2: Overview of the Experiment or Measurement
Section 3: Benchmark Specifications
Section 4: Modeling Instructions and Desired Results
Section 5: References
Appendix

The Appendix contains the actual forms to be submitted by those who perform calculations for the benchmark.

- (3) Steve Baker presented a summary of an isotopics benchmark that he and other members of a working group are preparing. The benchmark is based on isotopic measurements from fuel pins removed from a lead test assembly in Calvert Cliffs Unit 1 after three and four cycles of irradiation, respectively. Steve has obtained some encouraging preliminary results, and he expressed the hope that sufficient progress will be made for the JBC to vote on this proposed benchmark at its next meeting.
- (4) Russ briefly discussed a special session he is organizing for the June 2003 ANS meeting in San Diego, "ANS Joint Benchmark Committee Benchmarks and Related Efforts." The session appears as item 7C in the Call for Papers, and the deadline for on-line submissions is January 17.
- (5) A copy of a presentation entitled "IRPhE — International Reactor Physics Experiments Database" had been circulated to the membership in advance of the meeting by Enrico Sartori of the OECD Nuclear Energy Agency, who was unable to attend. The presentation had been made at PHYSOR2002 in October, and it summarizes the status of the International Reactor Physics Experimental Benchmarks Evaluation Project (IRPhEP).

RPSD Items

- (6) Hamilton Hunter also was unable to attend, but a copy of his presentation entitled "RSICC JBC Report" had been circulated to the membership in advance of the meeting. The report discusses, among other items, changes, additions, and pending benchmarks for the SINBAD database. It also raised the question of "wellness to fit" for benchmarks. It was not clear what this term means, and so a discussion of it was deferred until the next JBC meeting in San Diego in June.

MCD items

- (8) Barry Ganapol discussed a possible role for analytical benchmarks. He suggested that such benchmarks could be embedded in codes and run automatically for verification purposes.

- (9) Richard Sanchez briefly described some two-dimensional computational benchmarks that he plans to submit to the JBC. They include a PWR lattice with a displaced fuel pin and a BWR lattice.

General Items

- (10) Barry initiated a discussion on the need for outcomes. It was generally agreed that the objectives and applications for benchmarks need to be identified, along with their relevance to practical applications.

Barry adjourned the meeting and invited those present to a cocktail reception at 6:30.