

CHAIRMAN'S SUMMARY AND HIGHLIGHTS

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The 45th meeting of the Cross Section Evaluation Working Group was held at Brookhaven National Laboratory, November 19-21, 1996. It is gratifying to note the significant increase in attendance at the meeting and to see so many new faces. I hope that this is a good harbinger for the future. I would like to thank the committee chairmen for the effort involved in the organization of the work of the meeting and also the participants who made the meeting successful. A Nuclear Criticality Predictability Program Review was held adjacent to the meeting. The presentations are included here as a special attachment (#6).

Committee Highlights

Evaluation:

The plans for distribution of release 4 of ENDF/B-VI were approved. The distribution was completed in 1996. Release 5 is now in preparation. Review of the new and revised evaluations will be completed at the next CSEWG meeting with distribution to follow in early 1998.

Work has continued on the resonance and thermal energy regions for U-235 in conjunction with the NEA Working Party on Evaluation Cooperation's subgroup on this topic whose chair is Cecil Lubitz. It is planned to complete this work before the Trieste Conference in May 1997.

Three major evaluation thrusts were reported at the meeting. LANL is concentrating on evaluation of neutron and proton data between 20 and 200 MeV in support of accelerator target design for the accelerator production of tritium and for radioactive ion beam facilities. LLNL has begun evaluation of 20 materials of importance to the stockpile stewardship program. ORNL is working on resonance region improvements for O-16, Al-27, U-233 and Pu-241 in addition to the U-235 work nearing completion.

The NNDC has undertaken expanded compilation responsibility for charged-particle reaction data in response to the needs of nuclear astrophysics. The ENDF/B-VI summary documentation supplement documenting changes to ENDF/B subsequent to the original release has been completed. The document is available from the NNDC online service and WWW site.

Enclosure 1 (2)

Formats and Processing:

A number of proposals for format modifications were submitted. Action was delayed on most of the proposals because they were either incomplete or submitted too late for proper consideration. The ENDF-6 format manual updated prior to the meeting is available electronically from the NNDC.

The processing program NJOY is now at version 94.50. A version of NJOY meeting Quality Assurance guidelines is now under development. ANL and ORNL continue to work on upgrading their nuclear data processing systems to the ENDF-6 format standard.

Data Validation:

The data testing for ENDF/B-VI has been completed. However, only the thermal benchmark testing section of the report has been completed. ENDF/B-VI has been tested on the criticality safety benchmarks. The results suggest possible problems with the O-16 and Al-27 evaluations. Better results for the UO-2 lattice benchmarks were obtained with the lower U-235 capture resonance integral in Revision 3 of ENDF/B-VI. Eigenvalue results for homogeneous criticals also show improvement using ENDF/B-VI data.

Fifteen new benchmarks have been proposed. These are now being reviewed. The new version of the benchmark book, ENDF-201, has been converted to WordPerfect. The proofing of this new version is about 50% complete. When finished, this document will be available electronically from the NNDC.

Measurements and Basic Science:

The annual report on the U.S. nuclear data measurement activity has been completed and distributed. It is available from the NNDC WWW site. The NEA High-Priority Data Request List has been distributed for comment.

The committee is investigating the possibility for updating the ENDF/B-VI nuclear data standards. Documentation of the ENDF/B-VI Standards data base is being completed by Wolfgang Poenitz with funding from the criticality safety program. Completion is expected in 1997.

Next Meeting:

The next CSEWG meeting will be held at Brookhaven National Laboratory on October 6-9, 1997.