

**CSEWG Progress Report**  
to  
**NEACRP/NEANDC Working Group on**  
**International Evaluation Cooperation**  
**Petten, The Netherlands, 21-22 May, 1991**

The Cross Section Evaluation Working Group (CSEWG) held its 1991 meeting at Brookhaven National Laboratory, 8-10 May. This meeting marked the 25<sup>th</sup> anniversary of its operation. The next CSEWG meeting will take place 19-21 May, 1992 at BNL.

### **ENDF/B-VI**

The ENDF/B-VI neutron reaction sublibrary was completed in June 1990 and was released without limitation on its distribution. At the same time, the thermal scattering law and photon-interaction sublibraries were released. Since the release of these sublibraries, a number of errors have been detected in the files which will be corrected in a partial release (ENDF/B-VI.1) in August of this year. A list of the corrections to be included is attached. The summary documentation for ENDF/B-VI will go to press in July.

After extensive work, mostly at Los Alamos, the fission product decay data evaluation has been completed. This library will contain evaluations for 764 nuclides, all but 9 of which contain decay spectra. For many cases, theoretical data were required to supplement measurements. This data for the first time permits the calculation of decay heat with high accuracy for both short and long times. The entire decay data library includes about 960 nuclides and will be released in August-September of this year.

An evaluation of 50 fission product yield sets completed in 1989 will be released at the same time as the decay data. Another several months of effort will be required to revise this data to produce the final ENDF/B-VI fission product yields.

The LLNL evaluation of 5 charged-particle fusion reactions important to thermonuclear processes has been completed. This data will be put into the ENDF-6 format and released along with 2 LANL evaluations, also in August-September of this year.

We are planning to release a third version of the file (ENDF/B-VI.2) in the Fall of 1992 in which significant new and revised evaluations will appear. This release will contain the final fission product yield evaluations. Those which we know about at this time are listed in the attachment. Other revisions may also appear in the release including results of these cooperative activities which are ready at that time.

### **Formats and Processing Codes**

A major new release of NJOY (91.?) is now being packaged at RSIC and should be available in six weeks. Processing code systems at INEL and ANL are nearly ready for use in data testing of ENDF/B-VI.

The ENDF utility codes maintained at BNL will also be released in the next two months (version 6.7). This release only contains error corrections; no major improvements. The format manual for ENDF-6, ENDF-102, has been published and distributed. Update pages are now being prepared to take care of errors and other revisions. Please inform NNDC of any required corrections by July 1, 1991. No new formats have been adopted in the past year. The new silicon evaluations from ORNL will use the Hybrid R-function resonance parameter representation for the first time.

### Data Testing

Results from data testing are only beginning to come in. Thermal reactor testing results have been obtained only for  $^{235}\text{U}$  fueled assemblies. The performance is similar to ENDF/B-V except that the trend of increasing eigenvalue as a function of epithermal leakage and epithermal fission fraction has been reduced significantly. The results for fast reactors are incomplete although the  $k_{eff}$  for larger assemblies may be 1% too high. The  $k_{eff}$  for Pu-fueled assemblies has increased and is closer to 1. Recent calculation of reactor vessel damage benchmark experiments have dramatically improved with the new Fe isotope evaluations.

### NSAC review

The US Department of Energy has requested that a panel be formed by the Nuclear Science Advisory Committee to review the nuclear data program. This committee is chaired by Wayne Cassett of NIST. Their goal is to review nuclear data needs for the future. A second panel is expected to be formed to advise on how these needs can be met.

### Nuclear Data Evaluation Methodology Symposium

BNL will sponsor a follow-on to its 1980 conference on nuclear data evaluation. An international program committee has been formed which met last week in Juelich. The program has been agreed and the planning schedule adopted. The meeting will take place 28 September thru 2 October 1992 at BNL.