CSEWG Report

to
NEANSC Working Group on
International Evaluation Cooperation
Aix-en-Provence, France
16-17 June 1993

The Cross Section Evaluation Working Group (CSEWG) has not met since the Working Group's last meeting at JAERI in May 1992. The next CSEWG meeting will take place 5-7 October, 1993 at Brookhaven National Laboratory. The CSEWG Executive Committee has selected Robert Roussin of ORNL/RSIC to be the chairman of CSEWG for the next two year period while Charles Dunford is on leave from BNL. The major task of the October CSEWG Meeting will be to determine a program of activities for the next few years.

The proposed budget for FY94 for the DOE nuclear data program essentially eliminates the nuclear data measurement program in the United States. The operating budget for ORELA was zeroed. The WNR facility a Los Alamos will be lost due to the closing of LAMPF. The vacuum created by these closings cannot be filled by the remaining facilities at TUNL, Ohio University, and University of Massachusetts at Lowell.

ENDF/B-VI Evaluations

The second revision to the ENDF/B-VI library is nearly completed. Three new data evaluations for $^{14}$N, $^{45}$Sc and $^{127}$I are included. Twenty one evaluations have significant improvements in the thermal or resonance energy regions. There are miscellaneous corrections for an additional 16 materials.

The fission product yield evaluation by Tal England et. al. has been completed. The new release contains neutron-induced fission yields for 31 materials and spontaneous fission yields for an additional 9 materials.

There will be 6 additional evaluations in the ENDF High Energy library for neutrons and protons incident on $^{12}$C, $^{208}$Pb and $^{209}$Bi. The lead and bismuth evaluations result from a JAERI-BNL collaboration.

A detailed description of the contents of this release is attached. These evaluations except for $^{45}$Sc are now available from the BNL/NNDC online data service. The distribution of the tapes is awaiting completion of a modification to the $^{45}$Sc(n,p) cross section. There is also a new D-T evaluation from LANL undergoing review and a revised graphite thermal scattering law evaluation from LANL nearing completion.

Symposium on Nuclear Data Evaluation Methodology

An International Symposium on Nuclear Data Evaluation Methodology was held
at Brookhaven National Laboratory 12–16 October, 1992. The symposium was attended by 100 experts on nuclear data evaluation, more than 50% of them from countries other than the United States. More than 60 invited and contributed papers were presented making for a very busy week. This symposium was a successor to a similar meeting held in Brookhaven in 1980 following the completion of ENDF/B-V. Several new topics such as charged particle and photonuclear data evaluation, medium energy data evaluation, and computer aided evaluation techniques were added to broaden the scope of the agenda in several important developing areas.
Tape 127 contains new or revised evaluations for 21 materials. The evaluations for $^{45}$Sc and $^{127}$I are new. The $^{14}$N is revised in the resonance region and extended to higher energies. The Hf isotopes and fission products have been extensively revised in the thermal and resonance regions. These evaluations are a part of Revision 2 and replace corresponding evaluations in the initial release of ENDF/B-VI or in Revision 1.

0725   N-14    Neutron transport, Gamma Production
2125   Sc-45   Neutron transport, Gamma production
4440   Ru-101  Fission product
4443   Ru-102  Fission product
4825   Cd-106  Fission product
4831   Cd-108  Fission product
4837   Cd-110  Fission product
4843   Cd-112  Fission product
4849   Cd-114  Fission product
4855   Cd-116  Fission product
5325   I-127   Neutron transport, Gamma production
6028   Nd-143  Neutron transport
6034   Nd-145  Neutron transport
6243   Sm-150  Fission product
6249   Sm-152  Neutron transport
7225   Hf-174  Neutron transport
7231   Hf-176  Neutron transport
7234   Hf-177  Neutron transport
7237   Hf-178  Neutron transport
7240   Hf-179  Neutron transport
7243   Hf-180  Neutron transport
Tape 128

ENDF/B-VI  Neutron sublibrary  Distributed: June 3, 1993

Tape 128 contains revised evaluations for 5 materials. Missing sections with the energy release in fission (MT=458) have been added to all evaluations. In addition, resonance region improvements have been made for $^{238}$U and $^{239}$Pu. These evaluations are a part of Revision 2 and replace corresponding evaluations in the initial release of ENDF/B-VI or in Revision 1.

9228  U-235  Neutron transport, Gamma Production, Covariances
9237  U-238  Neutron transport, Gamma production, Covariances
9437  Pu-239  Neutron transport, Gamma production
9440  Pu-240  Neutron transport, Gamma production, Covariances
9543  Am-241  Neutron transport, Gamma production, Covariances

Tape 129

ENDF/B-VI  Neutron sublibrary  Distributed: June 3, 1993

Tape 129 contains new or revised evaluations for 14 materials. The $^{59}$Co has been revised in the thermal and resonance regions. The other 13 evaluations have minor corrections. These evaluations are a part of Revision 2 and replace corresponding evaluations in the initial release of ENDF/B-VI or in Revision 1.

2725  Co-59  Neutron transport, Gamma production, Covariances
2925  Cu-63  Neutron transport, Gamma production, Covariances
2931  Cu-65  Neutron transport, Gamma production, Covariances
3234  Ge-73  Fission product
9234  U-237  Neutron transport, Gamma production
9349  Np-238  Neutron transport
9449  Pu-243  Neutron transport, Gamma production
9640  Cm-245  Neutron transport, Gamma production
9643  Cm-246  Neutron transport, Gamma production
9646  Cm-247  Neutron transport, Gamma production
9855  Cf-250  Neutron transport, Gamma production
9858  Cf-251  Neutron transport, Gamma production
9861  Cf-252  Neutron transport, Gamma production
9864  Cf-253  Neutron transport (total, elastic, fission, capture only)
Tape 130

 ENDF/B-VI  Neutron FPY sublibrary  Distributed: June 1, 1993

Tape 130 contains evaluations of neutron induced fission product yield data for 13 materials. The materials included are $^{227,230,232}$Th, $^{231}$Pa, $^{232,233,234,235,236,237,238}$U and $^{237,238}$Np.

Tape 131

 ENDF/B-VI  Neutron FPY sublibrary  Distributed: June 1, 1993

Tape 131 contains evaluations of neutron induced fission product yield data for 18 materials. The materials included are $^{238,239,240,241,242}$Pu, $^{241,242m,243}$Am, $^{242,243,244}$Cm, $^{245,246,248}$Cm, $^{249,251}$Cf, $^{254}$Es and $^{255}$Fm.

Tape 210

 ENDF/B-VI  Decay data sublibrary  Distributed: June 1, 1993

Tape 210 contains a $^{98}$Tc evaluation. The only change is to correct the material (MAT) number.

Tape 211

 ENDF/B-VI  Spont. FPY sublibrary  Distributed: June 1, 1993

Tape 211 contains evaluations of spontaneous fission product yield data for 9 materials. The materials included are $^{238}$U, $^{244,246,248}$Cm, $^{250,252}$Cf, $^{253}$Es and $^{254,256}$Fm.
Tape 802

ENDF/HE-VI Neutron sublibrary Distributed: June 1, 1993

Tape 802 consists of three high energy neutron reaction evaluations providing data up to 1 GeV incident energy.

0625  C-12  High energy
8237  Pb-208  High energy
8325  Bi-209  High energy

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Tape 803

ENDF/HE-VI Proton sublibrary Distributed: June 1, 1993

Tape 803 consists of three high energy proton reaction evaluations providing data up to 1 GeV incident energy.

0625  C-12  High energy
8237  Pb-208  High energy
8325  Bi-209  High energy