

Summary of IAEA-NDS activities in 2004

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Following the announcement at the previous WPEC meeting (ref. Item 17 and 18 of WPEC summary record), the list of relevant activities and outputs is given below.

- Cross section standards have been evaluated. Tables of recommended cross sections are available on request. The information will be put on the IAEA-NDS web server. In the meantime, work continues to complete the evaluation of covariance files. The work will be completed by Autumn 2005.
- The new international dosimetry library IRDF-2002 was completed and is available on the IAEA-NDS web server at <http://www-nds.iaea.org/irdf2002/>. For administrative reasons the documentation still has the “draft” status officially.
- Re-evaluated thermal scattering law data for H in H₂O, H in ZrH_x, D in D₂O and graphite have been delivered and are available on the IAEA-NDS web server at <http://www-nds.iaea.org/indlts/>. The data are being tested for the JEFF-3.1 library. Some testing has also been done within the ENDF/B-VII project.
- Resonance parameters of ⁵⁸Fe have been re-evaluated and merged into the JEFF-3.1 candidate file. The documentation describing the evaluation is available electronically at <http://www-nds.iaea.org/reports/indc-uk-089.pdf>. The file is being tested within the JEFF-3.1 project and is available on request.
- The paper describing re-evaluation of the ²³⁸U thermal capture cross section has been accepted for publication in June 2005 issue of Nuclear Science and Engineering. The evaluated value has been incorporated in the resonance parameters produced at Oak Ridge.

Other activities:

- An updated version of the cross section library for fusion applications FENDL-2.1 has been prepared according to the recommendations agreed by the consultants at a meeting in November 2003. The library is available at <http://www-nds.iaea.org/fendl21/index.html>.
- The IBANDL database of nuclear data for ion beam application was prepared and is available on the IAEA-NDS web server at <http://www-nds.iaea.org/ibandl/>.

Projects in progress and other new activities are as follows:

- Within the scope of the CRP on Evaluated Nuclear Data for the Th-U Fuel Cycle, good progress was made on the ²³²Th file.

- Within the scope of the RIPL-III CRP, several additions were made to the RIPL database, thus extending its applicability quite significantly.
- The CRP on the Decay Data of the Minor Actinides is scheduled to start in Autumn 2005.
- Although the nuclear data for neutron activation analysis as an analytical technique are composite integral constants, they can be used to validate differential data. It is hoped that improvements to the differential data will result as a by-product of the CRP on Nuclear Data for Neutron Activation Analysis, which is scheduled to start in Autumn 2005.
- The work on thermal scattering law data has been extended to graphite (the data had been delivered) and selected “cold moderator” materials.
- A group of benchmarks is set up in the format as required for the SINBAD database. They are based on measurements performed on the lead slowing-down spectrometer at Grenoble.
- Preparations to produce a pilot application library for ADS are in progress.
- Work on the IBANDL database is continuing.

As discussed at the previous WPEC Meeting, guidance from WPEC to determine needs and priorities regarding the CRP on Minor actinide neutron reaction data, scheduled to start in 2006.