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# MEMO CP-N/124

**DATE:** 8 October 2014

**TO:** See distribution list below

**FROM:** K. Matsumoto, E. Dupont, N. Otsuka, A. Koning

**SUBJECT:** Statistical verification and validation of the EXFOR database

**REFERENCE:** NRDC 2013 (Working Paper WP2013-19 and Conclusion C10)

In the continuity of WPEC SG30 on improving the accessibility and quality of the EXFOR database, the NEA Data Bank and the IAEA Nuclear Data Section organised a comprehensive review of cross-section data in the EXFOR database in collaboration with A. Koning.

The first part of the review covers all neutron-induced threshold and activation reactions. The final report [1] describes the development of an efficient review system to systematically compare about 10 000 cross-section data sets with the corresponding values in the major evaluated nuclear data libraries. The resulting “goodness-of-fit” (GOF) information gives rise to various interesting trends in the data, including a list of suspicious data sets, for which the associated publications have been systematically reviewed. In most cases, the review confirmed that the experimental data were correctly compiled in EXFOR and mistakes have been notified to Data Centres.

As agreed during the NRDC meeting in 2013 (conclusion C10) the list of GOF scores is made available as an appendix to this Memo (in a separate file).

[1] A. Koning, “Statistical verification and validation of the EXFOR database: (n,n’), (n,2n), (n,p), (n,alpha) and other neutron-induced threshold reaction cross-section”, NEA report NEA/DB/DOC(2014)3, available at [www.oecd-nea.org/databank/docs/2014/db-doc2014-3.pdf](http://www.oecd-nea.org/databank/docs/2014/db-doc2014-3.pdf).

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