**Nuclear Data Section**

**International Atomic Energy Agency**

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**Memo CP-D/1112**

**Date:** 9 May 2024

**To:** Distribution

**From:** N. Otsuka

**Subject: Tools added to EXFOR utility codes and comments on Dict. 24, 209, 213**

**Reference:** CP-D/1093, CP-D/1107, CP-D/1109

I released a package of four tools (dirini, dirupd, maklib, seqadd) as “EXFOR utility codes” last November to share the EXFOR Master File production procedure with other centres. Recently, I have added the following six tools to this package:

* dic227: Convert a Nubase file to the Archive Dictionary 227.
* dica2j: Convert the Archive Dictionaries to the JSON Dictionary.
* dicdis: Produce Archive, Backup and JSON Dictionary for distribution.
* dicj2a: Convert the JSON Dictionary to the Archive Dictionary.
* dicj2t: Convert the JSON Dictionary to the Transmission Dictionary.
* spells: Check English spelling in the free text in an EXFOR file. (c.f. CP-D/1107)

The updated package is available on the NRDC Software website (<https://nds.iaea.org/nrdc/nrdc_sft/>) with an updated IAEA-NDS-0244 as a manual.

By using DICA2J and DICJ2A, one should be able to return the original Archive Dictionaries. However, I found some deviations:

* Truncation of some expansions in Dictionary 24 (Data headings)
* Disappearance of “1” at column 55 in Dictionary 209 (Chemical compounds)
* Disappearance of “\*” at column 55 in Dictionary 213 (Reaction types)

The truncation is due to the expansion exceeding the character length limit. The disappeared “1” and “\*” are currently not used according to the EXFOR/CINDA Dictionary Manual. I am going to

1. fix the truncation of expansions in Dictionary 24 by shortening them
2. replace “1” with “0” in Dictionary 209 according to Memo CP-D/1109
3. eliminate “\*” in Dictionary 213

unless a centre uses “1” or “\*” for some purposes. (I do not know what do these flags mean.)

**Distribution:**

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