<u>Memo 4C-3/303</u>

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To: Distribution

From: M. Lammer and H.D. Lemmel

Subject: CINDA, 30 keV Maxwellian spectrum

The literature contains now more often spectrum averaged cross-sections (mostly calculated) for 30 keV Maxwellian spectra of interest to astrophysics.

For such a spectrum, none of the existing alphabetic energy codes is applicable.

What was the previous practice for coding such data? It seems that such data had been entered in Cinda with the numerical energy value 3.0+4, with an explanation in the free text.

Consequently, we propose to add to the Cinda Manual on page II.9.4:

"For other neutron spectra, when none of the alphabetic codes applies, a numeric energy value is entered corresponding to the kT value of the spectrum, with an explanation in the free text (e.g. MAXW., KT=30KEV). Such entries should however, not be combined with or blocked to entries for monoenergetic neutrons."

See in the enclosure some other changes proposed on the same Manual page.

Clearance: J.J. Schmidt

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Proposed CINDA Manual page

II.9.4

g) Alphabetic Energy Codes

These codes are intended to describe quantities averaged over typical
neutron spectra. They may occasionally be combined with numerical codes
or with other alphabetic codes to indicate that both values are given.
For instance, a code MAXW 25-2 should be used when both a maxwellian
spectrum average and a value for monoenergetic neutrons are given

Energy codes for spectrum averages

Code (left adjusted)	Expansion in CINDA Book	Description
COLD	Cold	Subthermal neutron spectrum
MAXW	Maxwl	Maxwellian neutron spectrum at a temperature of 293°K or reactor temperature.
PILE	Pile	A reactor spectrum with a non-Maxwellian energy distribution.
FAST	Fast	A fast-reactor spectrum
FISS	Fiss	An unmoderated fission neutron spectrum.

Non spectrum codes

NDG	None	No data given
SPON	Spont	Spontaneous fission. (use only for quantities NU, NUD, NUF, SFN, SFG, FPG, FPB, NFY, FRS, CHG)
TR	Thrsh	Threshold Energy. If possible a numerical value should be given instead.