PROGRESS REPORT OF CJD

to NRDC Meeting
(May 2002)

EXFOR AND CINDA

During 2001-2002 TRANS 4122-4126 were sent to other centers. The total number of entries is 222 (20 entries are new, 202 entries are corrected).

During 1999 –2000 because of some technical problems CJD did not send information into CINDA base. As a result of fruitful cooperation with NDS the solution was found and CJD eliminated backlog in CINDA entry transmission. All the works up to now were compiled and transmitted. Now we are checking CINDA completeness concerning preprints, proceedings of International Seminar on Interaction of Neutrons with Nuclei in Dubna Meetings and et al.

Since November 2001 the following activity was made in CINDA compilation: 6 files (CJD-038-042) with 5587 entries in Exchange format and 5 files with 249 entries in READER format were prepared and transmitted.

It is necessary to emphasize that all this activity was possible due to fruitful cooperation with the NDS and great help and attention given by V.Pronyaev, M.Lammer, L.Costello.

EVALUATION ACTIVITY

The work is in progress on steady level in analysis and evaluation of threshold reaction excitation functions on the basis of empirical systematics. As a base for analysis and data improvement we use mainly ADL-3 library and comparison with EAF-99 library in those cases where EAF-99 data are different from ADL-3 data. Now we are engaged in analysis and evaluation of excitation function for radioactive isotopes. In many cases we reveal very surprising curves and try to correct them considerably or evaluate new ones as a result of comparison with our systematics.

Recently all the (n,d) reaction excitation functions for all isotopes from C up to Mo were evaluated using some systematical trends based on the Crimes and Height experiments and theoretical consideration concerning (n,d) reaction mechanism.

The work was continued on evaluation of full files of fissile isotopes. Last year we again analyzed, corrected and supplemented the following files: Np-237, Am-241, Am-242m, Am-243, Cm-243, Cm-244.

The work on formation of the fission product yield library is close to the end.

The evaluation of photonuclear cross sections for U-235 and U-238 was made up to 200 MeV.

The new evaluation was made of the following dosimetry reactions: $^{139}La(n,\gamma)^{140}La$, $^{186}W(n,\gamma)^{187}W$, $^{204}Pb(n,n')^{204m}Pb$, $^{46}Ti(n,p)^{46m+g}Sc$, $^{48}Ti(n,p)^{48}Sc$, $^{19}F(n,2n)^{18}F$, $^{58}Ni(n,p)^{58m+g}Co$. The covariance matrices for all these reactions are prepared as well.

The revision and correction was made for the following dosimetry reactions: $^{46}Ti(n,2n)^{45}Ti$, $^{47}Ti(n,x)^{46m+g}Sc$, $^{48}Ti(n,x)^{47}Sc$, $^{49}Ti(n,x)^{48}Sc$, $^{54}Fe(n,2n)^{53m+g}Fe$, $^{54}Fe(n,\alpha)^{51}Cr$, $^{51}V(n,\alpha)^{48}Sc$, $^{59}Co(n,\alpha)^{56}Mn$, $^{63}Cu(n,\alpha)^{60m+g}Co$, $^{75}As(n,2n)^{74}As$, $^{141}Pr(n,2n)^{140}Pr$.

The analysis and evaluation of the spectra and production cross sections of gamma rays for main structural and technological materials, made recently, will be published in VANT, Yadernye Konstanty.

This year we are engaged in re-evaluation of full files for Cm-242, Cm-245. We think on the basis of new theoretical calculations to evaluate some fission product files from BROND-2. First of all the files for Ru, Pd, Nd, Sm isotopes will be evaluated.