

Organisation for Economic Co-operation and Development

Nuclear Energy Agency

**Summary records of the NJOY Users Group
Organized in conjunction with the JEF/EFF Working Groups meetings**

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NEA Headquarters, Issy Les Moulineaux (France)

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Presentations

- Introduction (*JEFDOC-1225, Skip Kahler*)
- Recent updates in NJOY, (*JEFDOC-1225, Skip Kahler*)
- New thermal data processing with NJOY-99.252, (*JEFDOC-1203, J-Ch. Sublet, R. E. MacFarlane*)
- Assessment of survived radiation defects by a modified version of NJOY, (*JEFDOC-1223, S. Simakov*)
- Development of the PSG Monte Carlo Reactor Physics Code, (*JEFDOC-1205, J. Leppanen*)
- Nuclear data activities at IRSN, (*JEFDOC-1214, W. Haeck and J. Miss*)
- ERRORJ in NJOY & processing of covariance matrices, (*JEFDOC-1225, Skip Kahler*)
- Experience using ERRORJ, (*JEFDOC-1227, I. Kodeli*)
- NJOY Update Procedures, (*JEFDOC-1222, A. Trkov*)

All the contributions detailed above are available at two locations:

- At the NEA\Data Bank\Nuclear Data website :
<http://www.nea.fr/html/dbdata/meetings/nov2007/njoy/>
- JEFDOCs for the JEF/EFF Working Group.

Open discussion (“*future update strategies*”, “*transition from njoy99 to njoy2008*”, “*future LANL/User interaction*”)

A variety of topics were introduced for a general group discussion focusing on LANL areas of responsibility with respect to communicating with NJOY Users. The topics can broadly be categorized as:

- Future Update Strategies
- Issue Tracker

- Transition from NJOY99 to NJOY2008
- Training & LANL/User Interaction
- Test Problem Suite
- File Checking

With respect to Future Update Strategies, it was agreed that User's want to be informed when new updates are available as soon as practical. The publication of "preliminary updates" on the NEA NJOY site was seen as good. LANL (Kahler) expressed the concern that the publication of preliminary updates might lead to NJOY versions in the User community that don't include the true updates when officially issued at a later date. Users who were present did not share this concern.

The concept of an Issue Tracker was strongly endorsed so that Users can have a single web site to be aware of ongoing NJOY issues. LANL will investigate whether a web site that combines the best features of the no longer used "Issue Tracker" on the t2.lanl.gov/codes/njoy99 web site and the JEFF community "Feedback Tables" for nuclear data evaluations can be easily developed that will keep the User community informed on current NJOY developments.

LANL expects to release the long delayed Fortran 90 based version of NJOY during 2008. Current Users requested that a LANL consider a ~18 month transition period where both the new NJOY2008 and NJOY99 are maintained. In addition, the User community will communicate to LANL (Kahler) a "wish list" of new features for LANL's consideration while finalizing development of this new NJOY release.

The User community agreed that the "Understanding NJOY" tutorial, currently available under the NJOY97 web page were a good source of basic information for the beginning NJOY user. LANL will review this tutorial and consider revisions consistent with current NJOY usage so that this tutorial continues to be a useful resource in the future. When available, a new link will be added to the NJOY99 web page so that Users can more easily find this resource.

The historical test problem suite is not expected to change during the remaining life of NJOY99. Discussion among the Users indicated that it is not practical to expand the test suite so that a comprehensive validation or verification is performed for all users. LANL will investigate a small expansion to the test suite during final testing for NJOY2008 so that the primary calculational paths are more adequately tested than with the present test suite.

The issue of File Checking – how much checking should be done by NJOY, or should NJOY assume the traditional ENDF checking codes have already been applied to an input file – is difficult to answer. In general, Users indicated that an expansion of NJOY information or warning messages would be welcomed, and that even when physically unrealistic data are encountered that NJOY should continue processing, with a warning message, rather than halt with an error message. The specific example of negative cross sections coming from UNRESR and being passed to HEATR was cited as an example.

LANL noted during this discussion that no specific promises for future features were being made at this time. The timing for development of new web pages, a revised

“Understanding NJOY” tutorial, a final version of a new manual and an updated code will largely depend upon internal considerations at LANL as well as upon both internal and external funding support.

A question was raised about the current distribution of the ERRORJ module: ERRORJ has been recently adopted as a module of the NJOY code and also ERRORJ is distributed separately by the NEA. Should both versions be maintained separately? LANL will investigate how to integrate the visualization tools for the covariance matrices associated with ERRORJ.