Nuclear Structure and Decay Data Evaluation
and Related Activities of the Idaho Group

for report to the

meeting of U. S. Nuclear Data Program
April 27-28, 2000 at Lawrence Berkeley National Laboratory

I. Mass-chain Evaluations

Within the Nuclear Structure and Decay Data Evaluation Network, the Idaho Group has had the evaluation responsibility for the twelve mass chains 87 and 153-163. The participants in this work are R. G. Helmer and C. W. Reich. Since the last Network meeting in April 1999, the completed evaluation for A=162 has been added to ENSDF and published in Nuclear Data Sheets. During this period, B. Singh and A. R. Farhan, McMaster University, carried out the evaluation for A=163.

We are currently working on A=161.

The current status of our twelve A chains is as follows:

Mass	Last publication date	Updated nuclides
87	2/91	
153	2/98	
154	10/98	
155	4/94	
156	1/92	3
157	6/96	1
158	3/96	
159	5/94	
160	8/96	
161	1/90	1
162	7/99	
163	1/00	

II. Nuclide Evaluations

In the last few years, it has been decided that the currentness of ENSDF would be improved by allowing, and in some cases encouraging, the evaluation of the data for individual nuclides.

In response to a priority listing of the nuclides ^{161}Yb and ^{161}Dy, ^{161}Yb has been evaluated and added to ENSDF and the evaluation for ^{161}Dy has recently been completed.

III. Decay Data Evaluation Project, DDEP

R. G. Helmer is the coordinator of an international group that is carrying out evaluation of decay data for a set of nuclides that are important for several applications. This group includes evaluators from France, Germany, Russia, Spain, and the United Kingdom along with E. Browne and J. K. Tuli from the United States.

This group has produced completed evaluations for 29 nuclides. These results as well as comments on the evaluator's data processing for these evaluations have been published. Of these 29 nuclides, the R. G. Helmer authored 7 and coauthored 4 more. The DDEP has about 30 more evaluations under way, including 5 involving R. G. Helmer.

IV. Coordinating Activities

R. G. Helmer, Chairman of the Working Group on Nuclear Structure and Decay Data Evaluation, has been involved in the planning for this meeting.

V. Related Activities

C. W. Reich is an active participant in the Subcommittee created at the last international Network meeting to rewrite the JPI assignment rules given in the Nuclear Data Sheets. He has been assigned the lead responsibility for preparing the revisions to these rules, particularly as they apply to the low-energy structure.

R. G. Helmer is a participant in the Subcommittee created at the last international Network meeting to monitor the data entry and evaluation work in the A=21-44 mass region, the region that was previously done by the Utrecht group.

R. G. Helmer is a member of a Coordinated Research Project, CRP, sponsored by the International Atomic Energy Agency, IAEA, to evaluate decay data for nuclides used in the efficiency calibration of Ge semiconductor gamma-ray detectors. This CRP will, in part, use the methodology and results of the above DDEP.

The paper on recommended gamma-ray calibration energies by R. G. Helmer and C. van der Leun has been accepted for publication in Nuclear Instruments and Methods.