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Secretariat
American Nuclear Society

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Standards Committee
Working Group ANS-19.1

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American National Standard

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Foreword

(This Foreword is not a part of American National Standard Nuclear Data Sets for Reactor Design Calculations, ANSI/ANS-19.1-1983.)

It is the intent of this American National Standard to present specifications for the preparation of nuclear data sets for use in reactor physics computer programs employed in the design of nuclear reactors and to specify certain data sets as standards. The nuclear data used in reactor design calculations are fundamental physical quantities and, hence, are independent of reactor type. The lack of complete, exact experimental measurements requires the use of evaluated estimates of the data. This standard specifies guidelines for such evaluations and specifies how the resulting data sets should be processed, tested, validated, and documented.

This standard is intended primarily for nuclear data used for reactor core calculations. However, it may be of use in shielding calculations and in other areas, such as dosimetry and fusion.

This standard presents specifications for the preparation of evaluated Nuclear Data Sets, processed continuous data sets, and energy averaged data sets for use in nuclear reactors. ENDF/B-V is identified as a standard Evaluated Data Set. No Processed Continuous Data Set or Averaged Data Set is identified as a standard at this time. It is believed that the development of standard Processed Continuous Data Sets and Averaged Data Sets for use in reactor design is an achievable goal and, therefore, procedures have been established in this standard for achieving this objective.

This standard was developed by Working Group ANS-19.1 of the American Nuclear Society Standards Committee, which had the following members at the time it prepared and approved this standard for revision:

D. R. Harris, Chairman, *Rensselaer Polytechnic Institute*
*R. A. Dannels, *Westinghouse Nuclear Energy Systems*
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E. Pilat, *Yankee Atomic Electric Company*
P. F. Rose, *Brookhaven National Laboratory*

*R. A. Dannels, deceased, was chairman of the effort to develop the original version of this standard (N411-1975). His contributions to its revision prior to his death are gratefully acknowledged by the working group.

Working Group ANS-19.1 gratefully acknowledges Mrs. Frances L. Ganster whose tireless efforts and excellent work were invaluable in the development, formatting, and typing of Draft 1.

The working group also recognizes the participation of J. Rec (Combustion Engineering, Inc.) in the revision of this standard.

Suggestions for improvement of this standard will be welcome. They should be sent to the American Nuclear Society, 555 N. Kensington Ave., La Grange Park, Ill. 60525.

Standards Subcommittee ANS-19 of the American Nuclear Society had the following members at the time it processed and approved this revised standard:

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