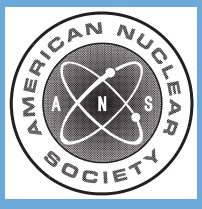
American Nuclear Society

WITHDRAWN

source term specification

an American National Standard



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Foreword

(This Foreword is not a part of American National Standard Source Term Specification, N237-1976/ANS-18.1.)

The purpose of this Standard is to provide a set of typical radionuclide concentrations. These concentrations would be used for estimating the radioactivity in the principal fluid streams of a light water reactor over its lifetime. It is recognized that some systems will have higher concentrations than those indicated in the Standard and some will have lower concentrations. The values used in this report were those judged by the working group to be representative concentrations in a light water reactor plant over its lifetime based upon the data currently available in this area. It is intended that these data not be used as a basis for design, but be used in environmental reports and elsewhere where expected operating conditions over the life of the plant would be used.

This version of N237 is Revision 2 of the version distributed on June 4, 1973. The major criticisms of the first version were the following:

1. The BWR and PWR type light water reactor plants were not handled indentically. The reason for this in the original draft was that there were more available data in the BWR area than the PWR, and it was felt at that time that a more analytical approach should be taken on the PWR in the absence of more definitive data.
2. A method of handling variations from the stipulated concentrations should be provided. This version is an attempt to provide a set of formulas for handling variations and to address and resolve most of the criticisms received on the first version. Suggestions for improvement of this Standard would be welcome.

The nomenclature used in this Standard is considered to be generally accepted, recognizing that differences do exist in the industry.

The following items are of concern to the working group developing this Standard and are presented as indications of areas where the Standard could be improved:

1. Iodine behavior in light water reactor systems is not well understood and further work is necessary in order to provide a means for following iodine throughout the reactor system.
2. Definitive programs on in-plant examinations for coolant activity behavior and other fluid stream behavior in light water reactors should be developed.

Working group ANS-18.1 who developed this Standard was comprised of:

J. R. Coombe, Chairman, *Stone & Webster Engineering Corporation*
C. Myers, Secretary, *Tennessee Valley Authority*
V. Benaroya, *U. S. Nuclear Regulatory Commission*
R. A. Burns, *U. S. Nuclear Regulatory Commission*
F. J. Frank, *Westinghouse Electric Corporation*
G. Caruthers, *Combustion Engineering, Inc.*
J. Locante, *Westinghouse Electric Corporation*
D. Nitti, *Babcock & Wilcox Company*
C. Pelletier, *Science Applications, Inc.*
J. M. Smith, *General Electric Company*

Members added to ANS-18.1 who have contributed to the development of this Standard are as follows:

F. Boorboor, *Long Island Lighting Company*
M. J. Bell, *Nuclear Regulatory Commission*
H. A. Till, *Electric Power Research Institute*
C. D. Thomas Jr., *Yankee Atomic Electric Company*

It is the intent of ANS-18.1 to develop a procedure for making this a "living" standard and would welcome any suggestions from utilities or any other interested party on the best way for this to be accomplished.

This Standard was prepared under the direction of Subcommittee 18 of the Standards Committee of the American Nuclear Society. At the time of approval the membership of the Subcommittee was:

Paul G. Voillequé, Chairman, *Science Applications, Inc.*
M. J. Cambria, *Gilbert Associates*
John Coombe, *Stone & Webster*
R. W. Engelhart, *NUS Corporation*
Ronald Garton, *Western Fish Toxicology Laboratory*
Morton I. Goldman, *NUS Corporation*
P. J. Hanson, *U. S. Nuclear Regulatory Commission*
A. J. Hogan, *Philadelphia Electric Company*
Simon Kinsman, *California State Health Department*
Gerald J. Lauer, *New York University*
J. W. Lentsch, *Portland General Electric Company*
Charles A. Pelletier, *U. S. Nuclear Regulatory Commission*
T. R. Rice, *Atlantic Estuarine Fisheries Center*
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Mark J. Schneider, *Battelle Pacific Northwest Laboratories*
David S. Smith, *U. S. Environmental Protection Agency*
G. F. Stone, *Tennessee Valley Authority*
Brian F. Waters, *Pacific Gas & Electric Company*
C. D. Wilkinson, *General Electric Company*

The American National Standards Committee N13, Radiation Protection, which reviewed and approved this Standard in 1976, had the following membership:

McDonald E. Wrenn, Chairman
Richard J. Burk, Jr., Secretary

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American Conference of Governmental Industrial Hygienists	D. E. VanFarrowe
American Industrial Hygiene Association	H. W. Speicher
	W. D. Kelley (Alt)
American Insurance Association	Karl H. Carlson
American Mining Congress	L. W. Swent
	R. T. Zitting (Alt)
American Mutual Insurance Alliance	Richard M. Seelye
American Nuclear Society	Eric T. Clarke
American Occupational Medical Association	William W. Burr, Jr.
American Public Health Association	Simon Kinsman
	Gerald S. Parker (Alt)
American Society of Mechanical Engineers	Monte Hawkings
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