



Radioactive Source Term for Normal Operation of Light Water Reactors

An American National Standard

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**American National Standard
Radioactive Source Term for Normal
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Secretariat
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**American Nuclear Society
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Working Group ANS-18.1**

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Foreword

(This foreword is not a part of American National Standard, “Radioactive Source Term for Normal Operation of Light Water Reactors,” ANSI/ANS-18.1-2016.)

The purpose of this standard is to provide a set of typical radionuclide concentrations for estimating the radioactivity in the principal fluid streams of a light water reactor. Some systems will have different concentrations from those indicated in this standard. The values in this standard were those judged to be representative concentrations in a light water reactor over its lifetime based upon the data currently available. It is not intended that these data be used as the sole basis for design but be used in environmental reports and elsewhere where expected operating conditions over the life of the plant would be appropriate. The data and methodology provided by previous versions of this standard have been incorporated in the GALE computer codes (see Bibliography) used for the calculation of gaseous and liquid effluents from light water reactors. The changes included in this standard should be considered in future updates of these codes.

This standard is Revision 3 of American National Standard N237-1976 (ANS-18.1-1976), “Source Term Specification,” and updates the default activity concentrations and adjustment factors associated with Revision 2 (ANSI/ANS-18.1-1999, “Radioactive Source Term for Normal Operation of Light Water Reactors”), based on the latest review of data from operating domestic nuclear power plants as documented in Electric Power Research Institute DRAFT Technical Document, “Technical Bases for Update of the ANSI/ANS-18.1-1999 Standard to Incorporate Contemporary Best-Estimate Radiological Source Terms in Principal Fluid Streams of Light Water Reactors” (October 2015). The values given in this standard will be revised periodically as additional plant operating data become available.

This standard does not incorporate the concepts of generating risk-informed insights, performance-based requirements, or a graded approach to quality assurance. The user is advised that one or more of these techniques could enhance the application of this standard.

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