



Reload Startup Physics Tests for Pressurized Water Reactors

An American National Standard

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**American National Standard
Reload Startup Physics
Tests for Pressurized
Water Reactors**

Secretariat
American Nuclear Society

Prepared by the
**American Nuclear Society
Standards Committee
ANS-19.6.1 Working Group**

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555 N. Kensington Avenue
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Foreword

(This foreword does not contain any requirements of American National Standard “Reload Startup Physics Tests for Pressurized Water Reactors,” ANSI/ANS-19.6.1-2019, but is included for informational purposes.)

The intent of this American National Standard is to provide guidance for verifying the nuclear characteristics of a commercial pressurized water reactor core. This standard is intended to cover the physics tests that are performed following a refueling or other alteration of the reactor core for which nuclear design calculations are required. This standard provides the minimum acceptable startup physics test program; however, this standard recognizes that additional tests may be required by special design features for a particular core. This standard does not reflect all test programs that have been approved by the U.S. Nuclear Regulatory Commission. This standard specifies the minimum testing required to confirm that the reconstructed core is accurately represented by the design/analysis.

Compliance with the intent of this standard can be demonstrated by meeting the following requirements:

- (1) Confirm the physics characteristics described herein using an acceptable method;
- (2) Determine if the test results agree with the predicted results within the previously established test criterion;
- (3) Document the above in accordance with the requirements of Sec. 7 of this standard.

Suggestions for the improvement of this standard are welcome. They should be sent to the American Nuclear Society, ATTN: Standards, 555 North Kensington Avenue, La Grange Park, Illinois 60526, or to standards@ans.org.

Following is a summary of changes that were made to the previous version, ANS-19.6.1-2011 (R2016):

- (1) Discussion of the difference between review criteria and acceptance criteria was moved from the appendix to the body of the standard with a clear statement that the standard uses only review criteria.
- (2) A new section (Sec. 5.3) was added to clarify that testing at the next power plateau should proceed only after acceptable results are obtained at the current power plateau.
- (3) A footnote was added to Table A.1 to address cores designed to be asymmetric.
- (4) Several editing changes were made.

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.

This standard might reference documents and other standards that have been superseded or withdrawn at the time the standard is applied. A statement has been included in the references section that provides guidance on the use of references.

This standard was developed by the ANS-19.6.1 Working Group of the American Nuclear Society, which had the active participation of the following members in preparing the current version:

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