

## COVER SHEET

**RESPONSIBLE AGENCY:**

U.S. Department of Energy (DOE)

**TITLE:**

Draft Environmental Impact Statement (DEIS), Construction and Operation of the Spallation Neutron Source (DOE/EIS-0247)

**LOCATIONS OF ALTERNATIVE SITES:**

Illinois, New Mexico, New York, and Tennessee.

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**ABSTRACT:**

DOE proposes to construct and operate a state-of-the-art, short-pulsed spallation neutron source comprised of an ion source, a linear accelerator, a proton accumulator ring, and an experiment building containing a liquid mercury target and a suite of neutron scattering instrumentation. The proposed Spallation Neutron Source would be designed to operate at a proton beam power of 1 megawatt. The design would accommodate future upgrades to a peak operating power of 4 megawatts. These upgrades may include construction of a second proton accumulator ring and a second target.

The U.S. needs a high-flux, short-pulsed neutron source to provide the scientific and industrial research communities with a much more intense source of pulsed neutrons for neutron scattering research than is currently available, and to assure the availability of a state-of-the-art facility in the decades ahead. This next-generation neutron source would create new scientific and engineering opportunities. In addition, it would help replace the neutron science capacity that will be lost by the eventual shutdown of existing sources as they reach the end of their useful operating lives in the first half of the next century.

This document analyzes the potential environmental impacts from the proposed action and the alternatives. The analysis assumes a facility operating at a power of 1MW and 4 MW over the life of the facility. The two primary alternatives analyzed in this EIS are: the proposed action (to proceed with building the Spallation Neutron Source) and the No-Action Alternative. The No-Action Alternative describes the expected condition of the environment if no action were taken. Four siting alternatives for the Spallation

Neutron Source are evaluated: Oak Ridge National Laboratory, Oak Ridge, TN, (preferred alternative); Argonne National Laboratory, Argonne, IL; Brookhaven National Laboratory, Upton, NY; and Los Alamos National Laboratory, Los Alamos, NM.

**PUBLIC COMMENTS:**

Comments on this Draft Environmental Impact Statement may be submitted during the public comment period, by writing to Mr. Wilfert at the above address, by directing a telephone call or facsimile message to the numbers indicated, or by e-mail. Comments may also be submitted at public meetings during the comment period. DOE will consider these public comments in its preparation of the Final Environmental Impact Statement.