

**Status Report on the Spallation Neutron Source (SNS) Project\***, B.R. APPLETON, J.R. ALONSO, J.E. CLEAVES, T.A. GABRIEL, ORNL; W.T. WENG, BNL; A.J. JASON, R.A. HARDEKOPF, D.P. GURD, LANL; R.A. GOUGH, R. KELLER, LBNL; B.S. BROWN, R.K. CRAWFORD, ANL - A collaboration of five Department of Energy National Laboratories is designing the SNS, a 1 MW, upgradable to 5 MW, pulsed spallation source to serve the neutron-scattering community. SNS will deliver 600 ns pulses of 1 GeV protons to a liquid mercury target at a 60 Hz rate. Responsibility for system components is as follows: LBNL will provide the high-brightness, 35 mA H<sup>-</sup> ion source, as well as transport structures and a 2.5-MeV RFQ accelerator; Los Alamos is designing linacs to bring the beam to the full energy of 1 GeV; Brookhaven is designing the accumulator ring to compress the linac beam into the sharp pulse delivered to the target, 1200 turns will be injected, storing  $1 \times 10^{14}$  protons, which are extracted in a single turn; Oak Ridge is designing the mercury target and all conventional facilities; and Argonne and Oak Ridge are coordinating the design of 10 neutron-scattering instruments to be provided as the initial suite of experiment stations. The Conceptual Design Report (CDR) was reviewed by DOE in June 1997, and is available at <http://www.ornl.gov/~nsns/nsns.html>. Based on this CDR, a request has been submitted to DOE and Congress for a construction line item in the FY 1999 budget with a completion date of FY 2005.

\* Work supported by the Director, Office of Energy Research, Office of Basic Energy Sciences, of the US Department of Energy under Contract No. DE-AC05-96OR22464.