Abstract for an Invited Paper for the APR07 Meeting of The American Physical Society

The Beginning of the End of an Era: Analysis after the shutdown of the Sudbury Neutrino Observatory KEITH RIELAGE, Los Alamos National Laboratory

The Sudbury Neutrino Observatory (SNO) took its final data on November 28, 2006 completing the third, and final, phase of the experiment. SNO measured the total solar ⁸B neutrino flux from the neutral-current interaction of solar neutrinos with 1000 tonnes of D_2O . The neutral-current disintegration of deuterium was detected in three different ways. The first phase examined the neutron capture signal on the D_2O , the second examined the neutron capture signal on NaCl that was added to the detector, and the third examined the neutron capture signal on an array of ³He proportional counters deployed in the detector. This third method provides a measurement that is independent of the previous methods that utilized the detection of Cherenkov light with the PMT array. Results from the first two phases will be highlighted. The operation and stability of the array of ³He proportional counters will be discussed. In addition, the status of the analysis of this final phase will be presented. The current plan for future analyses will also be discussed.