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New neutron capabilities for the Berkeley Accelerator Space Effects (BASE) Facility at the 88-Inch Cyclotron at LBNL[1] MARGARET MCMAHAN, C.C. JEWETT, LAWRENCE HEILBRONN, Lawrence Berkeley National Lab — The Berkeley Accelerator Space Effects (BASE) Facility provides heavy ions and protons for radiation effects testing by government laboratories (Defense, Energy and NASA) and contractors, private U.S. companies and international companies and laboratories. The combination of state-of-the-art ion sources for heavy ion running and relatively high intensities (up to 10 microamps) for protons makes it a very versatile 'one-stop-shop' for the radiation testing community. To add to this capability, a fast neutron capability has been developed using the d(Be,n) reaction in stopping targets. The choice of deuteron energy, ranging from 5 – 65 MeV, gives a broad energy spectra with some tunability. The commissioning of this facility will be discussed including energy and flux measurements, dosimetry and initial experiments. In the future, two off-line neutron generators will also be in operation at the BASE facility, providing thermal neutrons as well as monoenergetic neutrons at 2.5 and 14 MeV. These sources, running independently of the Cyclotron, will complement the broad spectra neutrons at higher energies, providing a unique and versatile neutron capability.

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