Abstract Submitted
for the DPP15 Meeting of
The American Physical Society

A Neutral Beam for the Lithium Tokamak eXperiment Upgrade (LTX-U)[1] ENRIQUE MERINO, RICHARD MAJESKI, ROBERT KAITA, THOMAS KOZUB, DENNIS BOYLE, JOHN SCHMITT, Princeton Plasma Physics Laboratory (PPPL), ARTEM SMIRNOV, Tri-Alpha Energy, Inc. — Neutral beam injection into tokamaks is a proven method of plasma heating and fueling. In LTX, high confinement discharges have been achieved with low-recycling lithium walls. To further improve plasma performance, a neutral beam (NB) will be installed as part of an upgrade to LTX (LTX-U). The NB will provide core plasma fueling with up to 700 kW of injected power. Requirements for accommodating the NB include the addition of injection and beam-dump ports onto the vessel and enhancement of the vacuum vessel pumping capability. Because the NB can also serve as a source of neutrals for charge-exchange recombination spectroscopy, "active" spectroscopic diagnostics will also be developed. An overview of these plans and other improvements for upgrading LTX to LTX-U will be presented.

[1]Supported by US DOE contracts DE-AC02-09CH11466 and DE-AC52-07NA27344

Enrique Merino
Princeton Plasma Physics Laboratory (PPPL)

Date submitted: 24 Jul 2015 Electronic form version 1.4