Memo #1: The ETA Project January Report

To: Dr. Glenn Sjoden, Chief Scientist, AFTAC

Copy: Brad Wallin - LLNL, Alan Ross - LLNL, Dr. Lee Bernstein - LBNL, Capt James Bevins – AFIT, Dr. Rachel Slaybaugh - UC Berkeley

This project began with a presentation on the plans and status of the ETA project to the JNSAC Peer Review Panel on January 17th at LLNL. The presentation was made by Capt. James Bevins of AFIT. A copy of the presentation is attached to this memo. The JNSAC Panel approved proceeding with the plan to execute the ETA experiments as an add-on to a NIF shot scheduled for July 23rd, 2018.

The experimental group preparing the ETA experiment met on the following day to go over the current plans. The ETA is currently at Lawrence Berkeley National Laboratory (LBNL) following the completion of preliminary experiments to verify the down-scattering characteristics of the ETA assembly. These preliminary experiments were successful and provided data confirming the down-scatter characteristics of the system.

The ETA parts have been checked for radioactivity following the experiments at LBNL, and found to have no significant radioactivity with the exception of one part of the assembly which showed the presence of a low level of radioactivity. This part will be shipped and stored according to requirements for radioactive materials. Plans were prepared to transfer the ETA from Berkeley to LLNL in the near future (date to be decided), and stored at LLNL.

An AFIT student, 1Lt Nick Quartemont, will be working with the LLNL radiochemistry group to perform the radiochemistry and gamma spectroscopy measurements of the resulting fission and activation products. Dawn Shaughnessy, Lt Quartemont, and Capt Bevins met to discuss logistics and the experimental procedures.

About the JNSAC Peer Review Panel

The NIF User Office hosted the Joint National Security Applications Council (JNSAC) Peer Review Panel (PRP) Meeting on January 17 and 18. The PRP met to review proposals for NIF experiments from a number of Department of Defense agencies, small and large companies pursing national security research, academics interested in nuclear physics, and researchers at Sandia National Laboratory. Presentations were made by principal investigators on 14 proposals that covered nuclear cross sections, x-ray source development, neutron source development, system survivability, and material properties.