

## **NE-23-31237 – High Temperature Neutron Flux Detector - Reactor Testing**

Ultra Energy is located in Round Rock, TX. They are a manufacturer of nuclear qualified sensors, safety critical instrumentation, and radiation monitoring products to support the civil nuclear industry. They deliver innovative safety solutions that help nuclear, space, aerospace, and industrial companies succeed.

Ultra has developed a prototype detector but to complete the anticipated testing program for the prototype detector and demonstrate suitable operation at reactor flux levels, the detector requires testing at fluxes equivalent to those typically seen in power reactor operation ( $1E10 - 1E11$ nv).

Ultra will collaborate with Oak Ridge National Laboratory (ORNL) to organize and design high temperature reactor testing of Ultra's prototype detector using ORNL's direct experience and understanding of high temperature neutron detector development and tests. Completion of the work will demonstrate suitability of the prototype for high temperature and high flux operations and allow for further development of the detector for commercial deployment.