

Statement by Paul Robinson Sandia 1997:

Neutron Generator Production and Support

Sandia completed construction of its neutron generator manufacturing facility early in 1996, ahead of schedule and within budget. All shipments of recertified W76 neutron generators for the Navy have been completed as scheduled. Also, processing began for neutron generators returned from the field for re-acceptance and reuse.

Sandia's neutron generator production responsibility is supported by the laboratory's research and development capabilities. **We recently completed three-dimensional simulations and experimental correlation of the neutron generator standoff phenomenon for the Warhead Protection Program Pit Reuse Warhead.** Simulations were completed using Sandia's PCTH hydrodynamic code on our Intel Paragon supercomputer. Experimental data were acquired from two primary hydrodynamic implosion tests conducted with Lawrence Livermore National Laboratory.

Shock histories were acquired by special instrumentation located in critical positions throughout the warhead electrical system and the neutron generators, providing data for code validation. Through the use of advanced visualization capabilities, Sandia's system designers, analysts, and shock physicists developed an in-depth understanding of the complex 3-D explosion through which the neutron generators must survive