stability, and we analyzed how visual interpretations of the color-dose scale could be used for decision making relative to a response worker guideline. The overall result was that the performance of the SIRAD was generally acceptable. Incidence of loss or damage to the device were low, false positive rates were less than 1%, and field deployment and environmental stresses did not seem to compromise their performance. Human visual interpretation of the color scale shows variability but appears adequate for tactical use. Response of the device to laboratory controlled irradiations was reasonably successful as judged against the most-relevant ANSI standards.

CRSO PLENARY SESSION
Tuesday, 10 July 2007
Room 115-116
2:30 – 5:00 pm

TPM-E

Abstracts unavailable

ENVIRONMENTAL
Wednesday, 11 July 2007
Room A105
8:30 am – Noon

WAM-A.1

A REVIEW OF RESIDENTIAL AREAS DEVELOPED AROUND MANHATTAN PROJECT AND EARLY AEC SITES AND POTENTIAL PATHWAYS FOR PUBLIC EXPOSURES.* T. Widner, K. Robinson, and S. Flack (ChemRisk, Inc., San Francisco, CA 94105)

The huge Manhattan Project effort to make the first atomic bombs brought about rapid establishment of a number of research labs and production plants in towns that by 1944 already housed over 120,000 project workers plus their family members. After WWII, additional production plants were built by the AEC to scale up weapons production and further research applications of nuclear technologies. At each location, residential areas had to be constructed for workers and their families. A review of historical reports, correspondence, books, maps, photographs, interviews, videos, and dose reconstruction project reports was performed to collect information about early residential areas around the Oak Ridge, Hanford, Los Alamos, Savannah River, Rocky Flats, and Idaho National Engineering Laboratory sites. Information that was summarized for each site focuses on characteristics relevant to public exposures that could have occurred. These include the proximity of residences to operational areas, whether buffer zones were considered necessary, significant terrain features, air and surface water flow patterns, and segregation practices. Locations of expected highest public exposures are identified. Important similarities and significant differences between sites are discussed.

*(Work supported in part by the Centers for Disease Control and Prevention under Contract 200-2004-10204.)

WAM-A.2

A REVIEW OF THE WORLD'S FIRST TEST OF AN ATOMIC BOMB (TRINITY SITE, JULY 16, 1945) AND POTENTIAL RADIATION EXPOSURES TO RESIDENTS OF NEW MEXICO.* T. Widner and S. Flack (ChemRisk, Inc., San Francisco, CA 94105)

The test of a plutonium-based implosion type atomic device at the Trinity Site in southern New Mexico on July 16, 1945, was an undertaking unlike any that man had tried before. There was much uncertainty among the Los Alamos scientists, military personnel, and Manhattan Project officials assembled for the event as to whether the device would work and what its environmental impacts would be. As part of CDC's ongoing Los Alamos Historical Document Retrieval and Assessment project, information has been collected relevant to environmental impacts of the explosion and potential exposures received by residents of the areas around the Trinity site from the ~20 kiloton blast, the resulting cloud, and deposited radioactivity. Members of the public were not evacuated in advance of, or following, the highly secret test. Numerous ranches existed in the area, some of which were not known to government officials, and grazing areas and agricultural lands with truck crops were in the fallout area. The terrain and air flow patterns in the area resulted in a number of hot spots. Seven two-man monitoring teams traversed local roads in the hours after the explosion and recorded their findings. The area of highest activity was found in a swath 12 miles long and 1 mile wide that extended from an area known as White Store across Chupadera Mesa. Within that area, exposure rates around 15 R/h were measured near known ranches 3.3 hours after detonation.

*(Work supported in part by the Centers for Disease Control and Prevention under Contract 200-2004-10204.)