

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 3, 2026

Sandia National Laboratories (SNL) Cognizant Engineer Report for March 2026

Radiation Protection: In February 2026, there were three separate violations of posted radiological boundaries at the Annular Core Research Reactor (ACRR). While none of the events resulted in personnel exposures or injuries, following the third event, the operations manager paused all operations at ACRR and directed personnel to perform a causal analysis and develop corrective actions to prevent further violations.

The first event, on February 13, involved a subcontractor performing electrical work near a radiation area, as part of an upgrade to the facility fire protection system. The worker reached into the posted radiation area to pull wire through a conduit and left it hanging inside the radiation area. This event was not discovered until three days later, when another worker noticed the hanging wire and notified radiological protection personnel; they later determined that the subcontractor received minimal dose, due to the low dose rate in the area.

The second event, on February 18, involved non-radiological workers performing work in a posted radiation area. Certain areas of ACRR are posted as radiation areas during specific reactor operations; however, these areas are not permanently designated radiation areas and are therefore “up-posted” only for the duration of the operation. On this occasion, the reactor’s high-bay area was up-posted slightly earlier than the time that had been previously communicated to all facility personnel. Consequently, when non-radiological workers arrived at the facility to perform fire system maintenance, an ACRR facility supervisor escorted them into the area to perform the work without noticing the off-normal radiation area postings on the facility doors. There was no dose to any personnel as the radiation hazard was not yet present.

The third event, on February 19, involved the crossing of a radiological boundary by a trained radiological worker without having signed the correct radiological work permit. Several experimenters arrived at a facility loading area to deliver equipment for an upcoming experiment. Since this area is often posted as a radiation area, individuals performing this task must have radiological worker training, be signed into a radiological work permit, and wear specified dosimetry during their tasks. Additionally, all workers are expected to check in with ACRR facility personnel prior to performing radiological work. On this occasion, the experimenters arrived at the loading area without having checked in and were therefore unaware that the radiological work permit they had previously signed had been revised. One of the experimenters crossed the posted radiation area boundary and delivered the equipment without having signed the revised permit, resulting in a violation. The experimenter did have a dosimeter and received no detectable dose for this event.

The March causal analysis listed four candidate corrective actions, pertaining to: improvements to the radiological posting paradigm; improvements to notifications for ACRR facility supervisors; formal notifications to workers of changes to radiological work documents they have previously signed; and clearer expectations for checking in with ACRR personnel.