

Society For Risk Analysis Annual Meeting 2010

Risk Analysis in Action

Poster Session: Exposure Assessment

P.52 Results of an independent peer review of potential health risks from diversion of water from the Rio Grande as a source of tap water for the Santa Fe, New Mexico region. *Widner TE, Le MH*, Shay EC, Scott PK, Thuett KA, Keenan JJ; ChemRisk, LLC; 25 Jessie St. Suite 1800; San Francisco, CA*
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Abstract: Scheduled to become operational in 2011, the Buckman Direct Diversion Project (BDD) will divert water from the Rio Grande as a source of tap water for the Santa Fe, New Mexico region. In response to public concerns regarding contaminants released from Los Alamos National Laboratory (LANL), which lies just west of the diversion point, the BDD Board commissioned an Independent Peer Review (IPR). The IPR team described, for technical and non-technical audiences, a critiqued synthesis of existing information and published risk analyses regarding exposure and health risk to local residents. They addressed radionuclide and chemical contaminants known to originate from LANL and from other sources. Legacy contaminants released to the (often dry) canyons on LANL property wash down to the river during storms and snow melts. Based on modern studies, up to 29 mCi of plutonium-239/240 was independently estimated to have been transported over several hours on 8 August 2006, after the Cerro Grande Fire. The IPR team built on that estimate using ratios of other contaminants found in canyon sediments to the measured plutonium. Contaminants have also been measured in ground water below LANL property, but the paucity of wells between detections and the Rio Grande prevents reliable prediction of arrival times at the river. River water measurements considered included 585 surface water samples collected between 1956 and 2010 that were analyzed for 578 different chemicals, radionuclides, and water quality parameters. Potential health risks were assessed based on levels recently measured in the Rio Grande, with and without anticipated removal by the new treatment plant, and based on measurements in the nearby Buckman well field