

# Communities For Clean Water

A Northern New Mexico Network

## Key Words:

**Department of Energy (DOE):** The federal agency that oversees the management and activities at LANL and other nuclear weapons sites nationwide.

**Environmental Protection Agency (EPA):** The federal agency that regulates radionuclide discharges to surface and groundwater at LANL.

**Los Alamos National Laboratory (LANL):** LANL was founded in 1943 as part of the Manhattan Project to develop the first nuclear weapons, which were used in World War II. LANL has continued researching and developing nuclear weapons for more than 60 years, an activity which had emitted large quantities of dangerous radioactive and hazardous contaminants to the air, soil and water. LANL also houses small-scale projects involving energy, space and non-proliferation.

**Maximum Contaminant Level Goals (MCLG):** The Safe Drinking Water Act requires that the Environmental Protection Agency (EPA) determine safe levels of chemicals in drinking water for the public to consume. This is based on the possible health effects of the chemicals. The MCLG is a goal and not enforceable.

**Maximum Contaminant Level (MCL):** The MCL is based on the MCLG standard. Unlike the MCLG, the MCL *is* enforceable to protect drinking water. MCL standards are partially based on the potential for technologies to clean up the certain contamination.

**One Part Per Billion (ppb):** Let's say you have one grain of salt. Divide the grain of salt into 100 equal parts. Take two of those equal parts and imagine them dissolved in a quart of water. That is one ppb.

**Radionuclides:** Radioactive elements have unstable nuclei. This means that these elements are transformed into other elements by emitting or absorbing particles. These particles can emit radioactivity in different forms, including alpha, beta and gamma. In some respects, the different forms have very different properties, but they all have the ability to break chemical bonds in the body. Breaking these bonds damage or destroy living cells, thereby setting the stage for cancer and other serious health problems.

**Alpha particles** are heavy, slow moving and carry a lot of energy, thereby causing concerns about inhalation of such particles into the body where they cause biological damage.

**Beta particles** are lighter than alpha particles and they may travel further. If they are significantly energetic, they can penetrate the skin. Even outside the skin, beta particles can pose a health hazard, especially to the lymphatic system.

**Gamma rays** are high frequency electromagnetic radiation, like X-rays. Gamma rays produce biological damage when traveling through the body.

**Reference Dose:** The reference dose estimates the daily amount of exposure to certain toxins that is safe for the public. Generally, the dose is calculated for a hypothetical "Reference Man," defined as a 154-pound "Caucasian" male in his twenties.

**Technical Area 50:** Technical Area 50 at LANL is also known as the Radioactive Liquid Waste Treatment Facility, which is located about eight miles from the Rio Grande. Since 1963, it has discharged thousands of gallons of treated and untreated radioactive and toxic liquid waste to Mortandad Canyon, which eventually feeds the Rio Grande.

**Technical Area 54:** Technical Area 54 is the operating waste disposal site at LANL. It comprises several "areas," including Area G, the low-level waste dump where radioactive waste is currently buried in unlined pits, shafts and trenches on the Pajarito Plateau. Area G is located about three miles from the Rio Grande. There are about 20,000 drums of waste sitting under canvas tents at Area G destined for the Waste Isolation Pilot Plant (WIPP). An additional buried 20,000 drums are also destined for WIPP.

*For more information or to become involved, please contact one of the groups in your area:*

*Amigos Bravos: 505.758.3874, [www.amigosbravos.org](http://www.amigosbravos.org), Taos*

*Concerned Citizens for Nuclear Safety: 505.986.1973, [www.nuclearactive.org](http://www.nuclearactive.org), Santa Fe*  
*Embudo Valley Environmental Monitoring Group: [serit@cybermesa.com](mailto:serit@cybermesa.com), Embudo Valley*