

On September 3, 2008, Kay Birdsell interviewed Charlene Cappiello concerning potential releases, chemicals used and status of TA-18. Charlene has worked at TA-18 for 17 years.

What is the current status of TA-18 and what has happened since about 1998 when the summary in the Pajarito Canyon Work Plan was written?

Operations at TA-18 were shutdown with the LANL stand down in July 2004. Since then, the nuclear material was either repackaged and moved to the Nevada Test Site (NTS) or TA-55, or disposed at TA-54, Area G. Repackaging was performed under hoods with HEPA filters, and the material was inventoried at that time. Both solid and liquid materials were moved. During repackaging, some solid wastes were generated and also disposed at Area G. All Category (CAT) 1 and CAT 2 materials and wastes have been removed from TA-18. Some CAT 3 waste may still be present. Char explained that the CAT levels are security categories in terms of how much processing is needed to generate weapons grade material, with CAT 1 being the closest to weapons grade. The CAT 3 material currently left at TA-18 is residual material, such as residue left on equipment.

The equipment has also been removed from TA-18. In general, the machines were disassembled, cleaned and packaged (around 2006). They are currently stored at TA-35, but will be moved in the next few months to the NTS where they will be set up to resume remote criticality experiments. Some obsolete equipment was disposed at Area G.

Starting in FY09, the buildings at TA-18 will undergo decontamination and decommissioning. The plan is to return the site to natural conditions.

Many of the PRS sites discussed in the Pajarito Canyon Work Plan were investigated in the 1994 to 1996 time frame. At that time, expedited clean ups, voluntary correction actions and interim actions were performed. Charlene said that since then the TA-18 staff worked to insure that no further releases occurred. She said they employed a full-time industrial hygienist that kept track of all inventories of non-nuclear materials. The hygienist accounted for all the materials, got permits for any disposals (all solid nuclear containing wastes to Area G), and carefully monitored operations so that no mixed waste was generated.

What are the waste streams at TA-18?

Most waste from TA-18 was solid waste. Trash went to Area G.

Each of the three critical assembly building (formerly called Kivas) had a septic tank with a drain field. These collected liquids from drain lines, floor drains and restrooms. Use of the septic systems stopped in the early 1990s. Potentially small



releases from the septic systems could have occurred from contaminants entering the floor drains.

Very little liquid waste was ever generated at TA-18. If any was produced, these went to the TA-50 radioactive waste treatment facility.

What are the major radionuclides and inorganic and organic chemicals used at TA-18?

U-235 and U-238. Mostly solid.

Char said that all Pu was in a solid form. Pu-239, -240 was used. This was clad, either with a nickel coating or in a stainless steel can. Also, Pu-238, Be sources (also Cs, Cf sources) were used. These were either clad or in a can and were always carefully inventoried and monitored for leakage.

What chemicals and radionuclides were released at TA-18 (drain lines, storage tanks, etc)? What forms of uranium were used and were uranium aqueous waste streams present at TA-18.

Some U solutions were used in Kiva 1. These were U-235 in various enrichments as uranyl solutions (uranyl nitrate or fluoride). Very small quantities of this may have released to drains and entered the septic system. UF_6 (gas from the gas core reactor) was used and traces of that were found in various places at the site.

Was tritium used at TA-18?

Never

How long were the sewage lagoons used at TA-18? Were the sewage lagoons lined or unlined? What other chemicals might have been released to the lagoons?

Char has no knowledge of the sewage lagoons. (The Pajarito Canyon Work Plan reports that the lagoons were used from 1969 to 1992, when the TA-46 Sanitary Waste Consolidation System was built.) She said that there was machining performed at TA-18, and cutting fluids were used. Also, cleaning solvents were used in some operations, such as in the ultrasonic cleaners for the electronics shop. She said these fluids were likely commonly used solvents like TCE.