UPDATE C-Farm Closure

Hanford Waste Management Area C (WMA-C)

Providing current information about ongoing field and research activities underway in support of the C-Farm Closure demonstration at Hanford.

Tank Closure Timeline

2043: Complete closure of all SSTs

2040: Complete retrieval of waste from all SSTs

2019: Waste Treatment Plant begins treating waste

WMA-C Closure Actions Complete 2019

2014: Complete WMA-C Closure Demonstration

2003: First SST emptied, C-106, followed by C-203

1989: Tri-Party Agreement signed

1968: DSTs begin receiving waste from SSTs

1961: First recorded SST leak confirmed

1944: T-Farm tanks begin receiving waste

1943: First SST completed

FOCUS ON C-FARM

C-104 is next in line for retrieval. The articulated mast system is installed and will be used to move the obstacle (old equipment) below the pump. Then the pump can be lowered, so waste retrieval can continue. Retrieval is expected to start again in January. The remaining waste volume is about 64,000 gallons. The stack extension on the exhauster is in place for this tank's retrieval operation.

C-107 had a 55-inch-diameter hole cut in the tank dome in December 2010. This allows insertion of the Mobile Arm Retrieval System (MARS). A riser and a shield plug were placed in the larger opening, awaiting the MARS installation in January. Waste retrieval is planned to start July 2011.

Area prepped for removal of C-107 riser.

C-108 has "hard-to-remove" heel waste. The retrieval path forward is to add water and soak, then add caustic and soak, in an effort to break up the waste. Double-shell tank (DST) AN-106 (the planned double-shell receiver tank for the C-107 and C-108 wastes) will receive a new adjustable-height pump.

C-111 has recently been determined to have about 35,00 gallons of waste remaining. Efforts to break up a top, hard-pan waste layer by soaking it with recirculated hot water and adding DST supernatant were unsuccessful. Minimal waste has been retrieved. A sample of this waste will be needed to define further retrieval methods.

C-112 will be the first tank to use an enhanced, extendable sluicer to aid in waste removal. Waste retrieval will start in 2011.

Other Tanks

A-105 has a small amount of moisture in it that has caused a large growth of ammonium nitrate to form on the ceiling of the tank and riser installations. Inspections of photos from the 1960s compared to some from the 1980s show the growth. It is unknown at this time what is promoting the ammonium nitrate growth.

Soils

Understanding soil contamination in C-Farm is an important part of tank closure. "Direct push" sampling was chosen as the preferred testing method in C-Farm because:

- The borehole is much smaller than that of a traditional test borhole
- Direct push probes are capable of sampling as deep as 240 feet below ground surface, taking multiple samples along the way.
- No drill cuttings (soil) comes to the surface.

At each planned sampling location, two direct push holes are completed. The initial probe rod is pushed to the desired depth, or until it is prevented from going deeper (e.g., a rock blocks its path). Both gross gamma activity (the average rate of gamma decay) and moisture are recorded (logged).

Electrodes are left in the hole permanently to allow ongoing monitoring. The hole is then closed (decommissioned).

After the data taken in the first hole is evaluated, specific soil sampling depths are chosen and a second direct push is performed within five feet of the first.

A data quality objective process is being developed to look at the A/AX tank farm mobile contamination.

Crystal formation inside A-105 is being investigated.

Tank Closure Discussions on the Way!

On January 6, at a special Hanford Advisory Board meeting, the U.S. Department of Energy and Ecology began discussing how we would like to move forward with proactive communications about tank farm closure.

The Tri-Party Agreement milestone for C-Farm tank closure is 2019. To achieve that target, closure decisions must be in place by 2013.

A variety of regulations will guide closure, but they share a common goal of protecting human health and the environment.

Workshops will be held later this spring to begin engaging the public in discussions about closure.

At the meeting, Jeff Lyon, Ecology's Tank Waste Storage Project Manager, explained our hope for transparency. In two years, Ecology expects to issue a draft permit modification adding the WMA-C closure plan to the Hanford Sitewide RCRA permit. This draft modification will have a formal public comment period. But we believe it should NOT be first time the public hears about it.

Therefore, we're planning workshops to:

- Educate the public about tank closure.
- Listen to public values and perspectives.
- Gather feedback as we draft the permit modification

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