

## Y-12 and the 2000 decade – Modernization to Transformation

Tom Smith, who for a number of years has led the forward thinking and long-range planning functions at Y-12, observed the following about the Infrastructure Reduction program and the Modernization program, “When BWXT Y-12 took over the contract in [November] 2000, there was a big initiative to reduce the footprint--primarily getting out of, and demolishing old facilities we didn’t need anymore and which were underutilized.”

Tom continued, “For the early years of the IR program, there was good interface with Modernization but not a huge integration need as we were demolishing facilities that stored a lot of materials and equipment we no longer needed for current missions. In the middle years, more integration was required as we began to look at facilities where we had to relocate functions to other facilities –and it had to be in sync with our modernization plans.”

He concluded, “Finally, it got to the point that we had to have the Modernization facilities in place (like Jack Case Center and New Hope Center) before we could demolish other facilities (like engineering row). Today, Transformation (and its associated Master Plan) drive the demolition activities and the plans for demolition of process-contaminated facilities.”

Tom Smith’s succinct explanation summarizes the transition that has taken place at Y-12 over the last 11-plus years. It has been exciting to see it happen and to be a part of the most radical transformation of the Bear Creek Valley site since the Manhattan Project. Notice the use of the term “Transformation” has increased as the term “Modernization” is fading. It is interesting to watch this happen.

There is more Transformation work to come. None of the nine major buildings averaging approximately 400,000 square feet each, have yet been taken down. Right now, Buildings 9201-2 (Alpha 2), 9210 (Biology Mouse House), 9207 (Biology offices and laboratories), 9204-1 (Beta 1), 9201-4 (Alpha 4), 9201-5 (Alpha 5) and 9204-4 (Beta 4) are unused.

Some of these buildings are empty and have power turned off, such as, Buildings 9204-1, 9210 and 9207. Others are not being used for current operations, but are not yet prepared to go “cold and dark.” So, the cost to keep them heated to avoid freezing water pipes continues until such time as the building can be prepared for shutdown. Examples are Buildings 9201-4, 9201-5, 9204-4 and 9201-2.

The pre-planning for what is now known as “Transformation” began as early as 1998, when the *Y-12 Site Integrated Modernization* effort was initiated. The primary focus of that early planning was to construct a modern facility especially designed for storage of highly enriched uranium.

Also included in that early planning was a Special Materials Complex, an Enriched Uranium Manufacturing Facility, a Lithium Operations Complex and an Assembly/Disassembly/Quality Evaluation Facility, all enclosed in a 30-acre Perimeter Intrusion Detection and Assessment System. It was essentially a new Y-12.

Initially the facility being designed to store highly enriched uranium was called the Highly Enriched Uranium Storage Facility. However, the use of the word “storage” led to a perceived role of Y-12 as a place where only storage took place and a fear of losing the identity of a precise machine shop and leading manufacturing facility. So, the name was changed to insert “Materials” rather than “Storage.”

Are you beginning to see that seemingly simple word changes can carry huge meanings and influence decisions regarding funding and future planning? It is so, and it is something that planners tend to consider as they look to the future.

With the onset of the planning required to implement the Y-12 Site Integrated Modernization effort also came the need for a Y-12 Site Wide Environmental Impact Statement in 1999. This new initiative included the first public meetings that addressed the modernization of Y-12.

These meetings resulted in lively discussions about aspects of Y-12 not previously addressed in a public forum. It was a sign of the times, more openness and more involvement of the public. The discussions also resulted in a more informed citizenry regarding the important missions and continuing need for Y-12 post-Cold War.

Terrorism was beginning to cause new threats. A changing world with new dangers from proliferation of nuclear weapons material added challenges for the nation. Y-12 and the Oak Ridge National Laboratory began to address this aggressively, supporting the nation's efforts to secure nuclear materials worldwide.

The SWEIS was completed in 2001, and the Record of Decision was published in 2002. The result of the process supported the modernization efforts and announced the intent to design and build two new facilities. The Highly Enriched Uranium Materials Facility and what was known at the time as the Special Materials Complex.

The SMC was not as fully defined as the storage warehouse with the fancy name of HEUMF. The warehouse was a simple design at first, but became much more complex as security design based threats became more strenuous. The attack on the World Trade Center on 9/11/01 changed our world forever; even the security at Y-12 was significantly affected.

Things that had not been under consideration were introduced during planning and caused substantial changes to the new building design, and physical barriers were added to the Y-12 site that further enhanced security by adding delays. It was a new day for security barriers and increased scrutiny.

In 2003 there was a Security Improvement Project with the intended scope of constructing a new Perimeter Intrusion Detection and Assessment System (a 20-foot wide gravel fenced area with motion detectors, cameras and other detection devices that surround 150 acres of Y-12 where the enriched uranium is stored or processed). The design called for a 60% reduction in size of the area protected.

However, the security plans changed when further discussion brought clearer definition to the Special Materials Complex, clarified the Highly Enriched Uranium Manufacturing Facility and caused it to be combined with the Assembly/Disassembly/Quality Evaluation facility. The resulting plan was renamed the Uranium Processing Facility, and the Special Material Complex was moved to the back burner. UPF was to become the lead design effort.

More on this transition from early modernization efforts to the total transformation that has resulted in new and more complete comprehensive plans will be included in the next installment of Y-12 history in the 2000 decade.