

Y-12 and the 2000 decade – infrastructure reduction

When BWXT Y-12 (now B&W Y-12) won the contract to manage and operate Y-12 in 2000, taking over in November, 2000, one of the main elements in their winning proposal was the idea that they would reduce 500,000 square feet of floor space as quickly as possible. While that was a key element in the contract proposal, they had no real idea how to do that or where the funding would come from to accomplish it.

It was one of the many bold and new ideas generated at that time marking the beginning of major change for the landscape of Y-12. Ultimately, over 300 buildings would be demolished, and well over 1,500,000 square feet of floor space would be reduced by 2012. This would lead the entire National Nuclear Security Administration's effort to reduce Manhattan Project structures that were no longer viable for present and future missions.

Quoting from an article written in the special *60th Anniversary 1943-2003* edition of Y-12's online news, Y-Source, the following paragraphs describe events happening then in the area of Infrastructure Reduction (formally known as the Facilities Infrastructure Reduction Program or colloquially as "FIRP" or "IR"). Note that Modernization as a term and program is just being introduced and beginning to evolve. Let's take a look back to 2003 and see what was being written about the previous year, 2002:

"Infrastructure Reduction, Modernization Programs Are Changing the Face of Y-12

"Two new major programs, Infrastructure Reduction and Modernization, had a major impact on Y-12 in 2002. These projects are so large in scope they likely will shape not only the future face of Y-12 but also of the region. The programs center around efficient use or disposal of current resources and planning for the next generation of work at Y-12.

"While the Infrastructure Reduction plan is highly visible (more than 30 buildings and structures were demolished in two years), the Modernization plan is subtler. Yet with combined estimated budgets boasting nine zeros, neither is likely to be overlooked.

Infrastructure Reduction

"The Infrastructure Reduction program began as a pledge made by BWXT Y-12, the contractor who runs Y-12, to the Department of Energy. They promised that, if given the opportunity, they would reduce the manufacturing footprint of Y-12 by 500,000 square-feet in two years. That is an area roughly the equivalent of ten football fields piled with junk. Only in this case, much of the "junk" was hazardous, some of it even radioactive.

"As many companies have learned since September 11, security is expensive. Decreasing the overall footprint of Y-12 helps eliminate the security and maintenance costs of buildings that no longer have a national security mission.

"Making the site as efficient as possible helps use tax dollars wisely. Also, by removing excess buildings and equipment, the Infrastructure Reduction campaign is helping clear the way for more modern and efficient structures.

Reuse, Recycle and Remove

"The Infrastructure Reduction program utilized a Reuse, Recycle and Remove campaign. The initial step was to evaluate facilities for reuse. For instance, an empty 187,000 square-foot manufacturing facility, known as Alpha 3, was assessed and found to be in good structural condition. Y-12 engineers and construction workers rehabilitated the building and prepared office space for more than 300 employees. The once-empty building now is bustling with activity as the home of the Y-12 finance and personnel departments.

"In situations where reuse was not feasible, recycling was the most desirable option. For instance, a large trailer office no longer was needed by Y-12, so it was donated to Habitat for Humanity in a nearby county.

"Finally, if neither reuse nor recycling was practical, buildings were slated for removal through demolition. In the two-year kickoff period of the Infrastructure Reduction campaign, 64 facilities were removed or demolished, part of a total footprint reduction of more than 578,000 square-feet. The excellent start the program has experienced was aided in 2002 by receipt of federal Facilities and Infrastructure Recapitalization Program (FIRP) funding. This vital funding is anticipated to continue in 2003 and beyond.

Greatest Feat

"Perhaps Infrastructure Reduction's greatest feat also was its least publicized. One of Y-12's critical missions is the storage and maintenance of Special Nuclear Material (SNM). SNM is stored in areas called Material Access Areas (MAA). The costs associated with MAA security are extremely high. A long-term goal at Y-12 is a more consolidated storage scheme for these materials.

"Part of the Infrastructure Reduction campaign involves the deactivation and eventual demolition of a large building known as 9206, which contained an MAA. After months of painstaking planning and careful execution, the staff at 9206 achieved the first-ever downgrade of a production MAA facility. The feat has led to safer, consolidated storage of Special Nuclear Material and clears the way for the continued deactivation of the 9206 facility.

Modernization

"The second major program at Y-12 is called Modernization. While often associated with the aging facilities, the Modernization program actually addresses personnel, processes and facilities. The Modernization program is centered around the idea that while Y-12 made its mark on history with its role in World War II, a flourishing, technologically advanced Y-12 is equally critical to the nation's future.

"Many facilities currently in use at Y-12 were designed and built in the 1940s as temporary structures, designed to last until the end of World War II. More than 40 years beyond their life expectancy, many buildings desperately need rehabilitation.

"Even rehabilitation cannot match the technological advances of the last half-century though, and a key component of the Modernization plan is the design and construction of three primary facilities: A Special Nuclear Materials facility, a new facility to house Highly Enriched Uranium operations, and a state-of-the-art beryllium facility, in which employees can handle beryllium remotely, removing a major health hazard to employees.

Critical skills

"In addition to facility planning, Modernization also addresses personnel issues. Much of the work that goes on at Y-12 is not performed anywhere else in the world. As a result, Y-12 has a highly skilled workforce using unique processes. Y-12's employee population is aging however, and there is an immediate need to hire and train a new generation of workers.

"To respond to this need, the Modernization program focuses on 'Critical Skills,' primarily hiring new college graduates in science and engineering fields. In fact, between construction workers and the 'Critical Skills' program, Y-12 hired more than 950 employees last year.

"The third major component of the Modernization program is process planning. This facet of the program deals with working to design and implement work operations. Making sure that work flows in a cost-efficient way, saves time and money and minimizes additional security costs. Planning for and procuring the tools for improved workflow also is a component of Modernization."