

## Tennessee Pollution Prevention Partnership Success Story



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## Y-12 Medical Radiography Goes Digitally Green

### The Member

The Y-12 National Security Complex is a high-precision manufacturing, assembly and inspection complex comprised of more than 20 facilities and organizations located on 800 acres near Oak Ridge, Tennessee. Operated by Babcock & Wilcox Technical Services Y-12 L.L.C. (B&W Y-12) for the National Nuclear Security Administration, Y-12 plays a vital role in the Department of Energy's (DOE) Nuclear Weapons Complex.

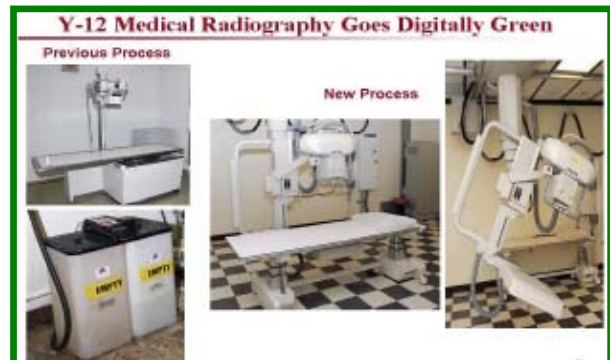
### The Story

In 2007, B&W Y-12 upgraded their Occupational Health Services (OHS) clinic with state of the art digital radiography equipment. The Y-12 medical facility was being relocated to a new building, so the OHS staff looked at the relocation as an opportunity to improve services and reduce chemical use and wastes. The facility was using medical x-ray equipment that was greater than 25 years old and no longer serviceable. After examining their options, the OHS staff selected, procured, and installed digital radiography equipment. Obtaining the new digital system was a team effort that involved Y-12's OHS and Information Technology divisions, who worked together to ensure the Y-12 Picture Archiving and Communication System and the new equipment were compatible, in addition to being compatible with a new Electronic Medical Business Operating System planned for the future.

### The Success

The new digital radiography system was successfully installed and has proved to be accurate, agile and environmentally friendly. This equipment which generates digital images greatly reduces the storage space requirements normally associated with hard copy x-ray film,

reduces the use of toxic chemicals, and eliminates the hazardous waste normally generated from film processing. In addition, technicians report the system is easier to use and has reduced patient wait times, affords greater flexibility to cover a wider range of radiography needs, and generates a cleaner, more accurate image that is desktop accessible. The new system also increases patient comfort since the machine enables the patient to sit or lie down on a stretcher while the machine is rotated and angled around them. This feature is extremely helpful for patients with less mobility.



### The Pollution Prevented

By going digital, Y-12 eliminated the generation of approximately 38 gallons (144 kilograms) per year of a Resource Conservation and Recovery Act (RCRA) hazardous waste containing silver and resulted in a cost avoidance of at least \$11,000 per year in waste disposal and chemical costs. It also had the added benefits of eliminating a RCRA satellite accumulation area, eliminating the purchase and use of hazardous chemicals and x-ray film containing silver bromide crystals, and improving OHS operations.