



Idaho Falls School District 91 Chemical Roundup Success Story

Idaho Falls School District 91 serves about 10,400 students in twelve elementary, three junior high, two high schools and one alternative school. All six of the District's secondary schools have laboratory chemicals; however, the alternative school's inventory is small. In the spring of 2008, District 91 applied for and received the maximum grant for each of five secondary schools for disposal of laboratory chemicals under the Idaho Chemical Roundup initiative sponsored by Idaho Department of Environmental Quality.

The Environmental Safety and Health (ES&H) Engineer, within the Maintenance and Operations Directorate, has responsibility for waste management and disposal at School District 91. The ES&H Engineer is a new position created in the summer of 2007. One of the priorities identified for the position was implementation of a laboratory chemical management and disposal program. To insure the most efficient use of resources, waste is handled on a district-wide basis; waste from individual schools and operations is not managed separately.

School District 91 had many years' worth of accumulation of chemicals, including some items that were very hazardous (e.g., sodium, potassium, bromine). The District began its lab chemical cleanout campaign in the summer of 2007. Efforts continued during the 2007-2008 school year. The first disposal was done May of 2008 during the Bonneville County Household Hazardous Waste (HHW) Day. HHW Day was chosen because the program provided significant cost savings. School District 91 is a Conditionally Exempt Small Quantity Generator (CESQG) under the Resource Conservation and Recovery Act. The Treatment Storage and Disposal Facility contracted by the county collected waste from numerous CESQGs, packaged it according to Department of Transportation regulations, and shipped it for disposal, all on a per-pound or per-drum basis. The District realized a significant cost savings by sharing transportation and disposal costs with other CESQGs. The District was able to dispose of approximately 20 drums of laboratory chemicals and a significant amount of operations waste at HHW Day for just over \$5000.

The next phase of the chemical cleanout took place in the summer of 2008. A Chemical Management and Laboratory Safety Team was formed consisting of a teacher from each of four of the district's secondary schools and the ES&H Engineer. The team was tasked with assessing the science laboratories and putting a chemical management system in place. Each school's chemical inventory was reviewed and a determination made for each chemical on whether to keep or dispose of the item. The criteria for disposing of a chemical included age, condition of the container and the chemical, the toxicity and/or physical hazards of the material, and whether the item had a curriculum-based need and if a safer option was available. Approximately 650 laboratory chemicals were removed from secondary schools by the team. A hazardous waste disposal company was contracted to provide lab pack services on-site, and in August of 2008 another eighteen drums were shipped for disposal.

Chemicals to be kept were labeled and placed into compatible storage categories using the Flinn Scientific chemical management system. The team also was able to move some

chemicals among schools based on their current curriculum and the new honors chemistry curriculum.

After the chemical inventory was completed, an assessment of each science lab's safety equipment was done using a Division of Building Safety laboratory safety checklist. Some of the safety requirements include chemicals not being stored above eye level, adequate lab and fume hood ventilation, and availability of safety equipment such as goggles, eye wash stations, and fire extinguishers. A summary report was completed that included a list of deficiencies identified and recommendations to address deficiencies. The team hopes that its efforts will help the District identify laboratory and chemical safety improvements that can be addressed during the district-wide facility upgrade that is currently being planned.

Team members unanimously agreed that they enjoyed the summer activity. Each member provided a different perspective and valuable viewpoint, and all found it to be an excellent learning experience with lots of ideas exchanged. Superintendent George Boland was pleased with the science lab chemical cleanup. He spoke of the team's accomplishment at a principals' meeting in August and stated, "Maintaining chemical safety for students and staff is a priority that cannot be overlooked."

School District 91 has been working diligently to reduce chemical inventories in the laboratories for the last year, and the grant from DEQ was a tremendous help. Having readily available funds dedicated to waste disposal allowed the District to remove a large amount of waste economically and efficiently. The District sent 38 drums of laboratory chemicals waste (~1500 individual containers) to waste disposal facilities this year, and numerous other containers of operations-related waste. The cost for the disposal was almost \$15,000.

The District schools and laboratories are significantly safer for both students and staff because of the laboratory cleanout program and grant. In addition, an inventory process is in place and a culture change is taking place. In the past, the attitude about chemicals was "more is better." This is slowly being replaced with "just enough is plenty," with training being done that emphasizes that the purchase price is just the tip of the iceberg when looking at the costs of managing chemicals. Tremendous improvement has been made, but much is still left to do to ensure chemical inventories are never allowed to become so large again.

The District still has additional chemicals to dispose. Some of the chemicals removed during the summer were held for use; if no school requests them, they will be disposed in the spring/summer of 2009. The chemical management team will reconvene next summer as well, and probably continue in subsequent summers. However, the scope of the work will be much, much smaller and the emphasis will be on maintaining inventories and disposing of items due to curriculum changes.

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