

## D4 Services: Decommissioning, Deactivation, Decontamination, Demolition



AECOM provides unsurpassed value and delivery within all phases of facility closure.

### Areas of Expertise

- Permitting
- Risk Management Approach
- Economic Evaluation
- Baseline Facility Review
- Asset Evaluation/Recovery
- Cost Estimate/Risk Register
- Decommissioning Planning and Procurement
- Hazardous Materials Removal/Abatement
- Site Assessment/Remediation
- Demolition Construction Management & Safety Monitoring
- Site Restoration/Brownfields Redevelopment

### Overview

AECOM's systematic and comprehensive approach to facility closure focuses on safety, compliance and cost-effective solutions. AECOM's staff combines local knowledge with world-class expertise in design and implementation of facility closure projects. We offer experienced program and project managers, EHS regulatory experts, cost estimators, schedulers, regulatory negotiators, construction supervisors, remediation planners, landscape architects and financial analysts.

### Our Approach

When a company decides to close a facility, it faces the challenges of defining divestiture options, taking those options to the external market, executing on the selected option, and, where applicable, closing on sale of the property, while simultaneously meeting a myriad of regulations and minimizing long term environmental, legal, and financial liabilities. Additionally, the potential for public image issues, third-party interventions and the pressure on corporate teams to close sites in a timely and cost-effective manner creates complex project completion challenges.

AECOM delivers cost effective, professionally managed facility closure services to our clients, ranging from providing net present value financial modeling for property divestiture to design and delivery of D4 programs. We use a range of delivery mechanisms tailored to project requirements, including design/build and turnkey options for sensitive projects where continuity of the project team is critical for success.

Our approach is holistic by design; our resources and experience allow us to offer a full suite of engineering and related services integral to facility closure. Our services include architectural and real estate planning to envision and assess property potential, economic evaluation of divestiture options, engineering assessments of hazardous materials, and design and management of facility demolition. AECOM has a long history of safely completing decommissioning projects and programs.

As Owner's Engineer, our staff has the right experience to manage all aspects of a D4 Project and Program. D4 activities can be very dangerous if they are not executed with best in class contractors managed by D4 subject matter experts that are involved early in the planning phase and fully engaged through project completion.

AECOM has developed a comprehensive risk management approach to address D4 Project and Program risk that results in the safe, timely and successful execution of D4 activities. Based on the owners' risk threshold in the areas of safety, price, schedule, environmental compliance and quality, AECOM will provide the best overall approach to meet the project goals and objectives. Our D4 Project and Program risk approach will distinguish between low- and high-quality proposal/contractor approaches, which is the first important step in achieving a successful project and program.



## D4 Services: Decommissioning, Deactivation, Decontamination, Demolition *(continued)*



### Key AECOM Attributes

#### CORE CAPABILITIES: D4 PROGRAMMATIC APPROACH

**ECONOMIC EVALUATION.** AECOM offers high level asset evaluation of closing properties, including real property valuation, potential building/equipment reuse/recycling, furniture, fixtures and equipment, the potential for beneficial reuse value of waste material that may be present, and a high level evaluation of natural resource asset potential such as wetlands, habitat, and water/mineral rights. In addition, AECOM works with the client's finance department to determine potential tax implications of divestiture options.

**FACILITY CLOSURE MANUALS.** AECOM uses a proven, systematic approach to decontamination and demolition, beginning with preparation of a Facility Closure Manual. The Manual identifies all environmental and engineering aspects of the project using written checklists/procedures, ensuring that the project is completed in accordance with client objectives and local, state/provincial and federal/ national governmental regulations.

**DECOMMISSIONING/DECONTAMINATION.** This stage begins with decontamination — removal of hazardous and non-hazardous materials — to sever the liability chain. Once oil, solvents, asbestos, PCBs, medical waste, radioactive and similar materials are removed, the facility's processing equipment, storage tanks, and buildings can be efficiently demolished as necessary to achieve the project goal. As appropriate, investigation and remediation is performed concurrently with decontamination. The type of investigation and remediation depends on the material released, the media impacted, and the extent of impacts. AECOM has the expertise to select and implement cost-effective investigation and remediation processes for any situation.

**ASSET RECOVERY.** A large part of every facility closure project is offsetting as much costs as possible through the strategic liquidation of surplus assets. Surplus assets can be defined as anything of value that can be sold to reduce the out of pocket costs to have the work performed. This could include, but not be limited to scrap metal, surplus equipment, concrete or any other commodity with value. AECOM investment recovery professionals take pride in finding as much value as possible and conveying that value directly against your bottom line so the work can be accomplished as economically as possible without sacrificing safety, quality, or protection of the environment. The more material recycled, the less that will go into a landfill. A detailed asset recovery assessment and recovery plan starts by quantifying the various grades of recyclable materials & identifying items with potential resale value. This requires experience in equipment sales, as well as a strong understanding of various grades and values of ferrous and nonferrous alloys. A large part of developing an asset recovery plan is doing homework in advance so a top notch plan can be developed that maximizes value, reduces & eliminates cost, and promotes sustainability through land fill avoidance. Once assets are identified, AECOM designs and implements asset handling protocol to ensure materials do not disappear throughout the course of the work through mishandling and/or theft. This program fortifies ethical behavior and promotes transparency and subsequent loss of revenue.

**DEMOLITION.** AECOM staff, including construction managers and health and safety professionals, are on site to ensure that facility demolition is completed safely, on schedule, on budget, and in accordance with project documents, applicable regulations, and client requirements. We draw on our extensive experience with the evaluation, management and disposition of manufacturing, chemical, gas, and industrial facilities by quantifying each concern outlined in the Manual and developing optimal strategies to maximize value and limit potential, current, and future liability. Through practical knowledge gained from years of executing facility closure projects, our ability to incorporate our client's business goals into the project plan differentiates AECOM from our competitors.

**SITE RESTORATION.** This stage makes the site suitable for its intended future use. Frequently, this includes final relocation of materials, plugging/abandonment of wells, placing compacted backfill to grade the site to original contours, installing ground cover vegetation and utility upgrades. In special cases, it may include public benefit features such as construction of a golf course, a community center, a white-water kayak course, or other recreational facilities.

