

# Sustainable Acquisition Success Story

## Product Spotlight on Brookhaven National Laboratory

### Brookhaven Sweeps Away Redundancy with Green Cleaning!

Brookhaven National Laboratory's (BNL) new cleaning system exceeds compliance with safety regulations and minimizes environmental harm. BNL follows the Janitor University Philosophy of Cleaning where custodial processes are reconfigured to improve efficiency and ergonomics. Instead of each custodian being responsible for cleaning a certain area (also known as zone cleaning), the BNL custodians, referred to as Operating System 1 Custodians (OS1 Custodians), are only responsible for their specialty: light cleaning duty, vacuum, restroom, or utility cleaning, and use pre-measured cleaning solution concentrates that help improve efficiency and reduce waste. These teams work together by moving systematically throughout a building, performing their specific tasks.

With adoption of the new specialty system, BNL has been able to reduce some of its custodial equipment by 60%. For example, one building at BNL was able to reduce its inventory of five vacuums down to two ergonomic backpack vacuums, which take up less space and are better for employee health. One building at BNL went from 11 custodial closets to one custodial supply area.

The specialty system also reduces the amount of equipment and supplies the custodians carry with them. For instance, instead of every custodian having a vacuum, only the Vacuum Specialists have them. This system reduces costs by using less equipment and allowing better control of supply inventory, which results in less waste and increases the efficiency and safety of the cleaning operation.

The OS1 Custodians use a prescribed cleaning system that not only pertains to the cleaning equipment but also to the cleaning chemicals. They use PortionPac® chemicals, which are supplied as concentrated, pre-measured, color-coded materials in compact and concentrated packages. One PortionPac® package is added to one bottle, one bucket, or one tank of water. Adding to the reuse of buckets and tanks, the plastic bottles are refilled and reused rather than discarded. The single-serve package wrappers are then used to account for how many chemicals were used each day. This allows for better control over chemical usage and regulation. In 2019, BNL was able to reduce the use of cleaning disinfectants by 12%, glass cleaners by 40%, and floor cleaners by 7%. This resulted in savings of \$2,527 over the 2019 calendar year. By 2021, BNL has reduced disinfectants by an additional 40% and floor cleaner by an additional 35%, totaling \$6,236 of new savings. Additionally, the adoption of the PortionPac® reduces the amount and cost of disposal while also minimizing environmental impact.

Despite the many challenges posed by the COVID-19 pandemic, since 2019, BNL has converted 12 buildings (ranging from 15,000 sq. ft. to 408,000 sq. ft.) to the OS1 model. Even though more employees began to telework, cleaning and sanitation schedules remained the same, and increased in many situations to limit the spread of COVID-19. Even with the increase in disinfecting of all switch plates, restrooms, elevators, conference rooms, and doorknobs, BNL decreased overall disinfectant usage by 40%. Because of this, BNL is making a safer and healthier work environment that will



Photo Credit BNL- BNL OS1 Custodial Team.

continue to show benefits into the future.

BNL currently has several OS1 Custodial Teams and will continue to add additional teams as needed. In addition to the OS1 Program, BNL continues to use traditional cleaning processes in some parts of their facility. However, all BNL's custodial teams use Green Cleaning methods, utilizing products certified by third party organization that evaluate products environmental and health impacts. Cleaning products they use are certified to Green Seal (GS)-37, GS-41, or Safer Choice. BNL's toilet paper is certified to Underwriters Laboratories 175, contains 100% recycled content, and is processed chlorine free. Paper towels also meet the Environmental Protection Agency guidelines for recycled fiber content and plastic trash liners are made from post-consumer recycled content.

## Keys to Success

### Challenge

How to make the custodial process more efficient, cost effective, and ergonomic.

### Solution

The OS1 Specialty Custodial Teams need fewer supplies and less equipment for each team to perform their specialty cleaning process (such as vacuuming, mopping, glass cleaning, etc.). By using PortionPac®, BNL is also able to reduce the amount of chemicals used and waste produced throughout the custodial process.

### Results/Benefits

- Reduces the amount of equipment and supplies the custodians carry with them
- Reduces costs by using less equipment
- Allows for better control of inventory
- Results in less waste
- Increases efficiency and safety of cleaning operation
- Saves over \$2,500 a year in reduced supply costs

### Lessons Learned

The OS1 custodial specialization model allows BNL to conserve space, lower equipment expenses, reduce cleaning chemicals, and lessen the amount of waste generated.



Photo Credit: BNL - Samples of PortionPac® chemicals and cleaning supplies

### Key Stakeholders

Tom Daniels, Associate Lab Director, Facilities and Operations, BNL

Dan Forino, Manager, Integrated Facilities Management Division, Facilities & Operations, BNL

Deborah Doyle, General Supervisor, Custodial Services Group, Integrated Facilities Management Division, Facilities & Operations, BNL

*Site Contact Information Ivan Rodriguez, Integrated Facility Management, [irodriguez@bnl.gov](mailto:irodriguez@bnl.gov)*