

**CASE STUDY**

# Fast-Track Design Offers a Clean Start for Production of New Product

Managing risk in new product production is key to a profitable outcome. When a personal care products manufacturer wanted to introduce a new body wash to its portfolio, it needed a new manufacturing process to operate within an existing and predetermined production space, all while meeting an aggressive schedule.

**Challenge**

A global personal care product manufacturer sought to introduce an innovative body wash using both new and reconfigured parts to create a production line. The new manufacturing process had to be able to handle special raw ingredients, maintain hygienic standards and start production — fast.

Our team was hired to design the detailed engineering plans that would size and fit new product formulation and production equipment into the plant. Tasks included understanding processing requirements for new raw ingredients, designing the new production process and clean-in-place (CIP) system, and executing a fast-track design-build with multiple design and construction partners.

**Project Stats****Client**

Personal care product manufacturer

**Location**

Midwestern U.S.

# \$400K

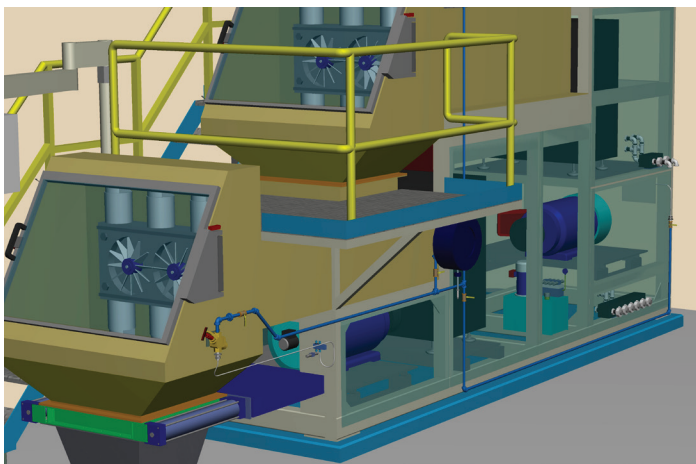
IN DOCUMENTED  
PROJECT SAVINGS

# 2

NEW RAW MATERIALS

# \$3M

IN SAVINGS THROUGH  
VALUE ENGINEERING



**Figure 1:** Rendering of process equipment installed in the facility.

## Solution

We developed project scope and estimated the budget within an accelerated timeline. Once preliminary design, conceptual engineering and cost estimates were completed, the project was approved and the budget set. Our team led the design of new production space and arrangement for the product's new formulation equipment.

The client determined that cornstarch would be introduced as a new dry raw material. Glycidate, a new liquid raw material, also would be added. Our team designed a new starch hydration and delivery system, plus a new glycidate delivery system. A CIP system was planned to service the new ingredient delivery systems. All were engineered to meet hygiene and quality standards.

Structural changes to the facility, including dust control, also were necessary to receive, store and handle bulk cornstarch ingredients. Modifications made to the installation for the dry raw materials included a building expansion, a bulk-bag unloading area, and metering and hydration capability with deionized water. All were developed to comply with the client's global manufacturing practices.

## Results

New product ingredient delivery systems, a dust control system, and raw material receiving and storage systems were designed, procured, constructed and installed within four months to support the new product rollout. The client benefited from more than \$400,000 in documented project savings, including several million dollars saved through value engineering practices.

The product is now in production and on the shelves, with an anticipated 20% increase in volume.

## About Burns & McDonnell



Burns & McDonnell is a family of companies bringing together an unmatched team of engineers, construction and craft professionals, architects, and more to design and build our critical infrastructure. With an integrated construction and design mindset, we offer full-service capabilities. Founded in 1898 and working from dozens of offices globally, Burns & McDonnell is 100% employee-owned. For more information, visit [burnsmcd.com](https://burnsmcd.com).