CASE STUDY:

NAS Jacksonville, FL

BCR Solid Solutions

NAVAL AIR STATION JACKSONVILLE, FLORIDA TAPS BCR TO UPGRADE WASTEWATER TREATMENT FACILITY

BCR upgraded the U.S. Naval Air Station (NAS) Jacksonville's wastewater treatment facility plant with their CleanB® system, resulting in a 95% reduction in energy consumption for biosolids treatment and a reduction in greenhouse gas emissions of approximately 480 tons per year.

Cost/Risk Challenges:

- Meet the U.S. Navy's aggressive energy reform targets
- Find a more energy-efficient, cost-effective alternative to aerobic digestion

Long-Term Success:

- Energy cost savings of $75,000
- 99% reduction in energy consumption
- Operating cost savings of $111,000
- Cumulative operating savings of $2.2M
- Payback on equipment projected at 5.0 years; 6.5 years including installation
- Reduction in greenhouse gas emissions
- Improved dewatering of biosolids
- 71% less polymer consumption

About the CleanB® Solution

CleanB® is a simple process that meets pathogen and vector attraction reduction requirements as defined by 40 CFR Part 503. The system is highly scalable, has a small footprint, and may be mobilized or permanently installed onsite. Every CleanB® system is outfitted with a control system and monitoring devices to record process parameters and ensure efficient operation.

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CleanB® operations data collected during the first full year of use confirmed projected significant reductions in energy consumption and overall operating costs.

CHALLENGING SITUATION

NAS Jacksonville is the largest Navy base in the Southeast and the third largest in the nation. In order to meet the U.S. Navy's aggressive energy reform targets, the base searched for efficient and environmentally sustainable technologies to reduce energy consumption.

A RECOMMENDATION BASED ON THE FACTS

BCR completed a detailed financial analysis based on verified operating data that compared aerobic digestion operations to the CleanB® system at NAS Jacksonville. Data collected over the first full year of CleanB® operations confirmed projected significant reductions in energy consumption and overall operating costs related to biosolids treatment.

BCR'S SOLUTION DELIVERS

The base opted to have BCR implement its recommendation— install the CleanB® system into the NAS Jacksonville wastewater treatment plant. Not only did the project substantially reduce energy consumption, but it also lowered overall operating costs related to biosolids treatment by eliminating the need for aerobic digestion. BCR installed a CleanB® unit to treat waste activated sludge from the clarifier to Class B standards prior to dewatering. What's more, the CleanB® solution produced a U.S. EPA-approved Class B biosolids beneficial reuse product suitable for land application.

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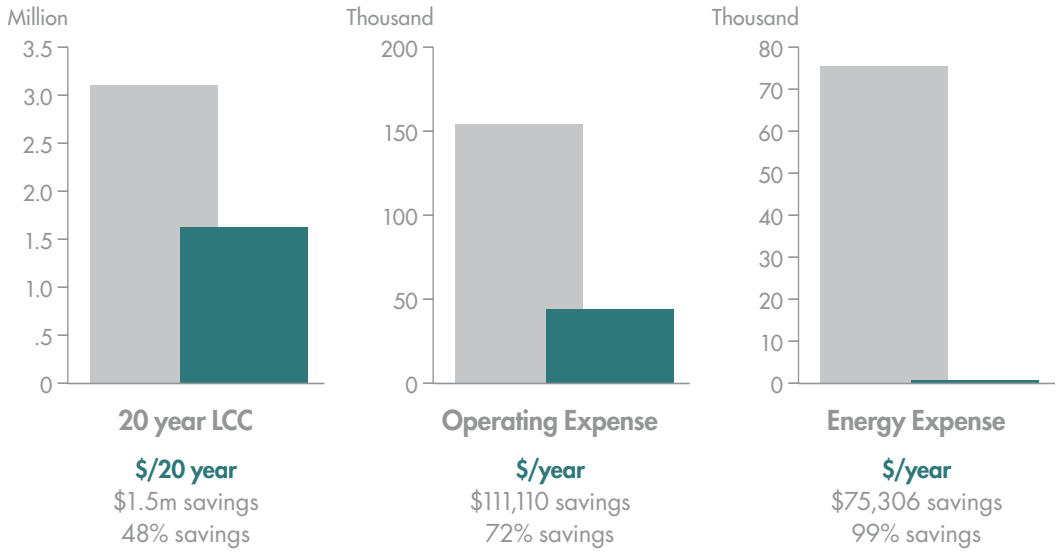
Following full-scale operation of the solution in 2012, BCR's project delivered NAS Jacksonville these benefits:

- Energy cost savings of approximately $75,000
- 99% reduction in energy consumption for biosolids treatment
- Total operating cost savings of approximately $111,000
- Cumulative operating savings of approximately $2.2 million over 20 years compared with aerobic digestion operations
- Payback on equipment projected at 5.0 years; 6.5 years including installation
- Reduction in greenhouse gas emissions of approximately 480 tons and 9,653 tons over the next 20 years
- Improved dewatering of biosolids reduced total volume to eliminate 12 truckloads of biosolids, with an average annual savings in hauling and disposition costs greater than $10,000 over the project life
- 71% less polymer consumption

The following chart shows before-and-after 20-year life cycle costs (LCC) and before-and-after average annual operating and energy costs:



WHAT MAKES BCR A TRUSTED PARTNER?

BCR designs, builds, and assumes full project accountability for long-term, sustainable wastewater treatment/organic waste and biosolids management solutions that deliver municipalities on average savings of 40-plus percent in operating costs and 90-plus percent in energy consumption. Our partnerships meet capital and operating expense constraints, assure regulatory compliance, buoy public sentiment, and enhance environmental stewardship.

- Only provider using scalable, lowest-cost solutions certified by the U.S. EPA that provide high quality end products for beneficial reuse/ land application.
- Only company with economically viable solutions for <15MGD / <15 DTPD operations.
- Only fully integrated platform with proven technologies and 100% project success.
- Only progressive project delivery approach with financial and risk analysis models designed specifically for biosolids & organics operations/management.