OPTIMUM ENERGY

HEALTHCARE

CASE STUDY / OPERATING ROOM OPTIMIZATION

Methodist University Hospital Shorb Tower

Proving the full efficiency potential of a brand-new operating suite, without compromising patient care.

LOCATION	FACILITY	ENGAGEMENT	SOLUTIONS
Memphis, Tennessee	Shorb Tower, 450,000 Sq Ft	HVAC Optimization	Operating Room Controls

YEAR 1 SAVINGS

$80K

per year

Year-one utility cost savings delivered on a $148,000 investment

SIMPLE PAYBACK

1.85

years

Project payback period, completed two months ahead of schedule

OPERATING ROOMS

18

rooms optimized

Operating rooms transitioned from 24/7 occupied mode to smart scheduling

Overview

When Methodist University Hospital's new Shorb Tower opened in 2021, it featured state-of-the-art hardware, advanced controls, and progressive design, yet it was never optimized or commissioned to operate at maximum efficiency. The hospital partnered with Optimum Energy to optimize 18 operating rooms, four air handling units, and one ventilation air handler in this nine-story, 450,000-square-foot facility.

The project was completed ahead of schedule without a single disruption to patient care or surgical operations, delivering $80,000 in year-one utility savings on a $148,000 project investment, a simple payback of just 1.85 years.

The Challenge: Hit Savings Targets in a Brand-New Facility at Full Capacity

Methodist University Hospital faced a significant energy efficiency problem in their newly opened Shorb Tower: all 18 operating rooms were programmed to remain in "occupied" mode 24 hours a day, 7 days a week, wasting energy and reducing system flexibility despite the facility having all the hardware needed to support smart scheduling.

The facility also experienced considerable simultaneous heating and cooling, a major red flag indicating control system inefficiencies. The Johnson Controls Metasys BAS was capable of sophisticated control strategies, but had never been programmed to leverage them.

The Solution: Collaborative Retro-Commissioning to Unlock Value of Existing Infrastructure

Methodist University Hospital and Optimum Energy chose a collaborative retro-commissioning approach: leverage existing hardware and control capabilities through software reprogramming, use staged pilot testing to prove safety before full rollout, and maintain close collaboration with surgical staff and facilities teams throughout.

- Space validation and terminal unit reprogramming across all 18 operating rooms
- Air handler reprogramming for 4 AHUs + 1 ventilation AHU on Johnson Controls Metasys
- Occupied/unoccupied control strategies and pressure control sequences
- Staged pilot approach, proven safe before campus-wide rollout

Projected Results

Delivered ahead of schedule with zero patient care disruptions, the project returned $80,000 in year-one utility savings on a $148,000 investment, a 1.85-year payback.

DETAILS

Methodist University Hospital

A 450,000 sq ft, nine-story patient tower in Memphis, TN, part of the Methodist Le Bonheur Healthcare system, serving the regional community with advanced surgical and patient care services.

SCOPE OF WORK

- 18 operating rooms optimized
- 4 AHUs + 1 ventilation AHU reprogrammed
- Johnson Controls Metasys BAS programming
- Occupied/unoccupied control sequences
- Terminal unit reprogramming campus-wide
- Staged pilot validation before full rollout

PROJECT RESULTS (YEAR 1)

Year 1 Utility Savings	$80,000
Operating Rooms Optimized	18 rooms
Patient Care Disruptions	Zero

PROJECT FINANCIALS

Project Investment	$148,000
Simple Payback	1.85 years
Timeline	Ahead of schedule

> *"From day one, we knew something wasn't right. Simultaneous heating and cooling in a brand-new facility was a big red flag. Optimum Energy didn't just identify the problem; they partnered with us to solve it in a way that respected our clinical environment."*
>
> — Steven Atkins, Director of Facilities, Methodist University Hospital

Year 1 utility savings are verified results from the Shorb Tower operating room optimization project completed in 2025. Simple payback calculated on $148,000 project investment at $80,000 annual savings.