

# Legend Power Systems® SmartGATE Case Study

## Active Power Management Platform Overview

### Overview

A prominent commercial real estate owner and operator for multifamily properties is looking to expand its market leadership position by increasing tenant satisfaction and safety, lowering GHG emissions, lowering operating costs, and increasing the value of its properties. They operate over 60 properties and have been privately owned for three generations.

### Initial View

The major mechanical systems of the facility were recently replaced as part of their strategy to decrease energy consumption and reduce GHG emissions. The buildings were in good shape and had no apparent mechanical concerns.

### Initial Engagement

The property owner engaged Legend Power Systems to conduct a power impact assessment for ten buildings. This evaluation tested and graded the incoming power supply and compared the results to leading research to determine the impact of the incoming power in 3 major categories – Efficiency, Lifetime, and Reliability. The results of the assessment showed that there were issues. These issues included wasted energy due to consistent overvoltage, reduced reliability due to much higher than expected voltage fluctuations (quantity and severity) causing increased malfunctions in critical systems like HVAC, elevation, lighting life and safety equipment, and more.

Additionally, other power quality conditions would result in premature failures in equipment such as motors, controllers, and LED drivers. However, as these conditions and their impact had been occurring for years, they were all thought to be the ordinary course of operations and business. As a result, Legend Power suggested the installation of 10 SmartGATE Active Power Management Systems.

### Results

After installing 10 SmartGATE Systems (one per utility service on each building) systems, the following results were documented:

- Energy-Related Savings – consumption, demand, costs, and GHG emissions. (See table below)
- Maintenance and Repair Savings (see table below)
- Lower energy costs and GHG emissions enabled a 2% rent increase increasing Net Operating Income
- Fewer repair events (see table below)
- Fewer Tenant Complaints
- Utility Incentive under C&I Customer Measures Program (see table below)
- Qualified for accelerated first-year tax depreciation resulting in significant tax savings (see table below)
- Average Return on Investment (ROI) – over 15%
- Common Maintenance and Repair Savings:

Fewer VFD Trip / Reset (50%+ reduction)	Fewer Lighting Failures (25%+ reduction)
Fewer Control Board Failures (50%+ reduction)	Fewer Elevator Entrapments (50% reduction)
Fewer Sensor Failures (70%+ reduction)	Fewer Motor / Pump Failures (50% reduction)

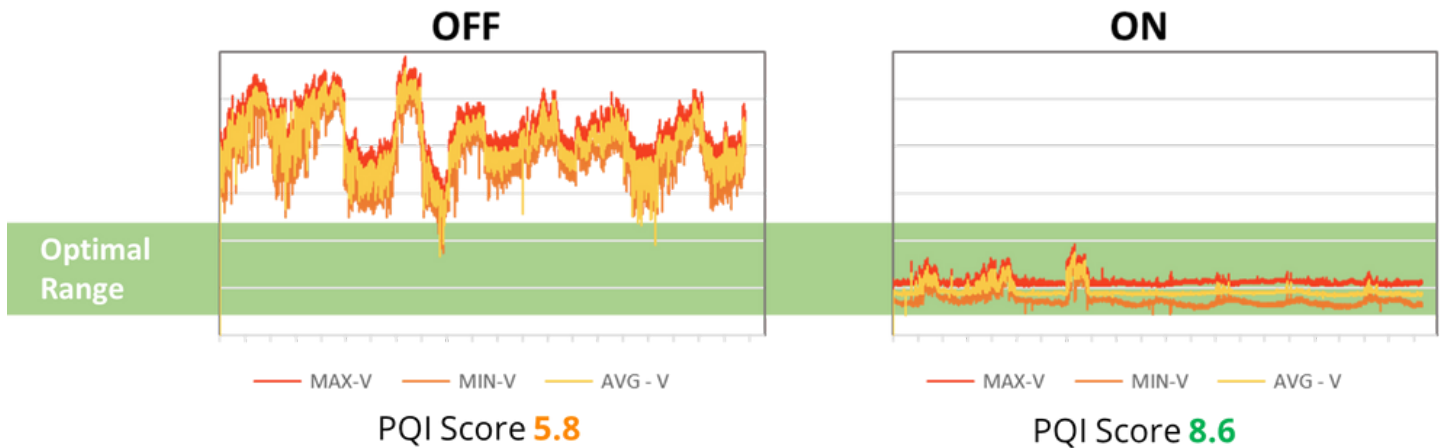
**Building Detailed Results:** After an IPMVP Compliant Measurement & Verification the following results were documented

Building	Score Before	Score After	Estimated Energy Savings	Energy Savings Achieved	Initial Event Count	After Event Count	Total Savings*	Net Costs**
1	7.7	9.2	4.0%	6.1%	7	0	\$19,456	\$86,708
2	3.6	9.1	4.0%	6.0%	377	2	\$21,565	\$105,431
3	5.7	9.8	4.2%	4.2%	131	1	\$7,314	\$86,346
4	3.4	8.5	5.4%	5.4%	137	1	\$12,154	\$153,672
5	2.9	9.1	5.3%	6.3%	89	0	\$20,691	\$106,613
6	3.7	9.5	5.0%	7.6%	92	0	\$23,954	\$111,868
7	3.7	9.3	5.1%	7.5%	80	0	\$23,440	\$106,945
8	3.4	9	3.3%	4.0%	549	4	\$12,371	\$85,307
9	5.2	9.1	3.6%	3.6%	756	10	\$11,973	\$141,886
10	3.2	7.9	3.6%	3.6%	199	2	\$9,824	\$85,964

\* Total Savings is energy savings plus expected savings in maintenance and repairs

\*\* Net Investment is based on before tax spend and after 1 year depreciation tax savings and applicable utility incentives

**Typical Building Results:**



**“Not only do our buildings with SmartGATE save and profit more, they just run better. Everyone is happier – tenant and employees alike, with better than a 15% ROI to top it off”**

– CEO of a three-generation private multifamily CRE company