Case Study

Coushatta Casino

Seamless Transition, Maximum Reliability: Coushatta Casino's Active Power Flywheel Success Story

Figure 1. Coushatta Casino, Kinder, Louisiana.

CUSTOMER AND LOCATION

Coushatta Casino Resort is a renowned gaming and entertainment destination located in Kinder, Louisiana. Situated on the Coushatta Tribe of Louisiana's reservation, this sprawling resort offers visitors a thrilling gaming experience with a vast array of slot machines, table games, and poker rooms. Beyond gaming, Coushatta Casino boasts a range of amenities including luxurious hotel accommodations, multiple dining options serving a variety of cuisines, a championship golf course, an impressive water park for family fun, and live entertainment venues featuring top-notch acts and performances. With its combination of gaming excitement and diverse entertainment options, Coushatta Casino Resort has become a popular choice for both locals and tourists seeking an unforgettable getaway in the heart of Louisiana.

CUSTOMER REQUIREMENT

The aging power infrastructure across the United States, coupled with the surging demand for casinos nationwide, has spurred casino operators to make power reliability a top priority. This emphasis on dependable electrical supply is critical for ensuring seamless and uninterrupted gambling experiences for their ever-expanding customer base and underscores the vital role of power in the casino industry.

Coushatta recognized the need to upgrade their power infrastructure to prepare for future growth. They turned to Active Power for a solution to replace their outdated battery-based UPS systems. At the time of their inquiry, the casino was relying on two end-of-life S&C static UPS systems with battery energy storage, each with a capacity of 500kW. However, the casino's critical power demands had surged since the installation of these legacy battery UPS systems necessitating a substantial increase in power capacity.

In this particular scenario, the challenge arose from the customer's need for UPS backup during the upgrade process, which involved switch-over periods without available UPS backup. Active Power met this challenge head-on by offering a rental UPS for the entire duration of the replacement and commissioning works. (Refer to the 'Solution' section for more details.).

Figure 2. Slot Machines at the Core of Casinos Globally.

THE ASSURANCE OFFERED BY ACTIVE POWER FLYWHEEL UPS SYSTEMS

Active Power Flywheel UPS are chosen to support Casino's around the world for the following reasons:

- **CONTINUOUS GAMING OPERATIONS:** Casinos operate around the clock, and any power disruption can result in significant financial losses. Active Power Flywheel UPS systems provide a seamless transition to backup generator power in case of an outage ensuring that slot machines, table games, and electronic systems remain functional.
- **PROTECTING DATA AND TRANSACTIONS:** Casinos handle vast amounts of sensitive customer data and financial transactions. A power surge or outage can potentially corrupt data or compromise security. Active Power Flywheel UPS systems safeguard against such risks by providing stable conditioned power to critical systems.
- **CUSTOMER COMFORT:** An unexpected power interruption can disrupt the entertainment experience for casino patrons. Active Power Flywheel UPS systems help maintain a comfortable environment with functioning lighting, climate control, and audiovisual systems, enhancing customer satisfaction.
- **COMPLIANCE AND REGULATORY REQUIREMENTS:** Casinos often need to adhere to strict regulatory guidelines that include ensuring the security and integrity of their operations. Implementing our Flywheel UPS systems helps casinos meet these requirements and avoid penalties.
- **REPUTATION AND BRAND IMAGE:** A casino's reputation is vital for attracting and retaining customers. Reliable power infrastructure demonstrates commitment to customer service and operational excellence enhances the overall brand image.
- **COST SAVINGS:** By preventing downtime and minimizing disruptions, UPS systems ultimately save casinos money by reducing operational losses and avoiding the need for expensive emergency repairs.

Active Power Flywheel UPS achieve all the above with higher operating efficiency and lower TCO (total cost of ownership) than the chemical battery alternatives. There's no need for temperature-controlled battery rooms, additional fire monitoring and suppression, and costly disruptive replacements every 5-10 years.

SOLUTION

Active Power put forward a comprehensive solution, composed of two CLEANSOURCE® XT 1000kW MMS flywheel-based systems, featuring a combined total of 8 MMUs (Multi Module Units). Each CLEANSOURCE® XT MMS has sufficient capacity to meet 100% the casino's power demands. Considering the current power requirements, which fall within the range of 350kW to 400kW per 1000kW UPS, this proposed solution not only offers significant redundancy but also allows ample room for accommodating increases in customer load in the future.

In addition to delivering the CLEANSOURCE® XT MMS UPS, Active Power equipped the customer with two external 1600A Maintenance Bypass Cabinets featuring the added safety of a Solenoid Key Release Unit (SKRU). This setup ensures convenient power redistribution during maintenance procedures and enhances operational efficiency and safety.

Moreover, Active Power's Sales Applications team identified an opportunity to enhance the reliability of the customer's generators by using Active Power's GenSTART generator starting modules. These modules replaced the existing, less dependable lead-acid starter batteries on the four 3MW backup diesel generators currently operational at the Coushatta site. Each generator was equipped with two GenSTART modules. This solution not only substantially enhances reliability but also presents a potential for cost savings by eliminating the necessity for future battery inspections and replacements.

Coushatta Casino operates 24/7 making it imperative to eliminate any potential risks of power outages during the UPS upgrade process. To ensure uninterrupted operations, Active Power provided a 1.2MW POWERHOUSE rental solution. This temporary installation provided flywheel UPS power conditioning and back-up to the casino's functions throughout the removal of the old S&C UPS systems and the installation and commissioning of the new Active Power CLEANSOURCE® XT 1000kW units.

The POWERHOUSE is readily available at short notice. It can be delivered anywhere within the US mainland without the need for cranes, thanks to its Bison lifting system. The deployment of the POWERHOUSE enabled a seamless UPS upgrade that minimized downtime and disruption to the casino's operations.

Figure 3. A pair of CLEANSOURCE® XT MMS 1000kW Flywheel UPS.

CLEANSOURCE® XT MMS UPS

- 1000kW, 480V, 60Hz, UL, 3-Wire
- Up to 98% efficient
- Half the space of legacy battery-based UPS
- Modular and Scalable Design
- N+ Configurations

Figure 4. One of the Eight Actrive Power GenSTART Modules used to provide Coushatta's Back-Up Generators with Reliable Starting Power.

Figure 5. Active Power 1.2MW POWERHOUSE on route from the Active Power factory in Austin, TX to Coushatta Casino in Kinder, LA.

TIMELINE

TIMELINE	
October 2020	Opportunity identified
June 2022	Customer places PO with Active Power
December 2022	Active Power ships and delivers UPS, Switchboard and GenSTARTs to site
February 2023	UPS commissioning and handover to Customer

OUTCOME AND FUTURE

Through the acquisition of two cutting-edge CLEANSOURCE® XT 1000kW UPS systems, Coushatta Casino Resort has effectively doubled its previous power capacity. This substantial boost in capacity not only positions the establishment advantageously for future growth and expansion within their existing casino site but also solidifies their leadership as the largest casino in the Louisiana region.

The Coushatta casino technicians have fully embraced the Active Power Flywheel technology, praising its remarkable impact on maintenance and repair efforts. They attest to a significant reduction in downtime, as the power infrastructure no longer experiences strain, and slot machines no longer go offline. Following the success of the first installation, Coushatta are already in the process of evaluating plans to incorporate an extra set of four flywheels to safeguard other vital applications within the facility.

Coushatta's forward-thinking move to adopt the Active Power Flywheel UPS solution is expected to exert a strong influence on other casinos in the region, inspiring them to explore and implement this advanced power protection technology to safeguard their operations. Across the United States, hundreds of Active Power Flywheel UPS's are already in operation at various casinos. They play a pivotal role in ensuring these facilities operate seamlessly, free from costly and disruptive power interruptions.

Figure 6. 1.2MW POWERHOUSE rental on-site at Coushatta Casino in Louisiana.

Figure 6. Old S&C static UPS with battery being replaced.

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