

## Gila River Hotels & Casinos – Wild Horse Pass Ensures Power Reliability and Lowers its Carbon Footprint with VYCON Clean Energy Storage

Gila River Hotels & Casinos – Wild Horse Pass, owned and operated by the Gila River Indian Community, is one of the first Vegas-style hotels and casinos in the greater Phoenix area. With over 400,000 square feet of luxury entertainment and hospitality, the casino offers over 1,000 slot machines as well as 63 table games, retail shops, and a 1,400-seat entertainment venue. As a hotel and casino, facility operations must be operable 24/7/365 days of the year.

Ensuring that the property's infrastructure is running at top performance, falls on the shoulders of Robert Grant, Director of Facilities. "Being a 24/7 operation presents challenges in servicing equipment," said Grant. Keeping the electrical power equipment humming is paramount in running the entire gaming floor and back of house cage areas. "The Gila River community is fed power from several sources and is often subjected to storm damage, wildlife on power lines and human-caused accidents," noted Grant. During the summer, some areas of Arizona are exposed to more than 126 days of extreme heat over 100°F. During the monsoon season, severe storms can lead to instances of flash flooding.

The casino's power infrastructure is critical, requiring continuous support of casino operations. If a power event were to occur and processes went down, Wild Horse Pass would not only suffer substantial revenue loss but also incur damage to its many Cisco servers while creating major and immediate customer dissatisfaction.

When the time came for Grant to re-assess the facility's power protection equipment – especially the UPS batteries that were approaching the end of their useful life – he needed to find a more sustainable solution that would honor the Community's green initiatives. Kenneth Manuel, the CEO of Gila River Gaming Enterprises, Inc., the group that oversees Wild Horse Pass Hotel & Casino, fosters the Gila River Indian Community's energy efficiency goals. Sustainable building has been practiced in the Community for



*Wet cell batteries located in the garage.*



*Wild Horse Pass Hotel & Casino*

hundreds of years. Honoring and protecting the land, water, environment, and all living beings predate the development of green building and sustainable development programs.

Wanting to go battery-free and having good experience with VYCON flywheels for a previous installation, Grant turned to Titan Power, a local value-added reseller of power and air solutions for data centers, computer rooms and other IT mission-critical facilities. "In servicing the wet cell batteries quarterly, we started to see signs of age and lack of reliability," said Stephen Berney, Chief Operations Officer for Titan Power. "In reviewing the costs that Wild Horse Pass would incur to replace the batteries, we considered alternatives."

### A More Reliable Approach

The casino's power infrastructure included two 750kVA UPSs, 480 wet cell batteries in an A/B configuration and two 2-megawatt generator-sets to back up the property. "Maintaining the batteries at an optimal temperature was a continuous challenge as they were housed in the garage. We could not maintain a 72°F temperature during the summer months. 82°F is the norm for us in the summer," recalled Grant.

#### Problem

Replacing high-maintenance lead-acid batteries that were ending their useful life.

#### Solution

VYCON's VDC-XXT eco-friendly flywheel systems were installed to improve power protection reliability and efficiency as well as save on maintenance, space and cooling costs.

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*VYCON VDC-XXT 450kW flywheel systems*

In reviewing alternatives, Grant did not want to incur the upfront costs for more wet cell batteries nor the ongoing expense of replacing valve-regulated lead-acid (VRLA) batteries every four to five years. After consulting with Titan Power, they recommended clean energy storage flywheels in order to improve power protection reliability and efficiency as well as save on maintenance, space and cooling costs. Titan previously provided a solution for a single VYCON flywheel unit to support another application at Wild Horse Pass. Once Grant was able to see the space and Total Cost of Ownership (TCO) savings, the VYCON energy storage solution sold itself.

## A Sure Bet

The VDC flywheel energy storage systems store kinetic energy in the form of a rotating mass and convert this energy to electric power through patented technology within the flywheel system. VYCON's unique technology includes a high-speed motor generator, active magnetic bearings that are used to levitate and sustain the rotor during operation, and a superior control system that can provide information on system performance. These innovative technologies enable the VYCON flywheel to charge and discharge at high rates for countless cycles making conventional technologies like batteries obsolete.

VYCON's VDC-XXT flywheels store and deliver a reliable source of DC power utilizing the kinetic energy of its high-speed flywheel. The VDC units replace traditional batteries on UPS systems and provide the most reliable, instantaneous, backup power needed to start-up and transition to the emergency generators during a prolonged utility outage.

## Spinning Up the Winnings of Clean Energy Storage

Titan Power replaced the batteries with a total of four VYCON VDC-XXT flywheel systems at 450kW each. The flywheel units are paired with the casino's two three-phase 750kVA UPSs in parallel. “Upon a power glitch, the flywheels will keep the load up until the generators start in approximately 11 seconds,” stated Grant.

“The four VYCON flywheels were a breeze to install and have a very small footprint,” said Grant. “The unit's lightweight allowed us to place one on the second floor of the property with no issues. The whole unit came up in one piece in a standard elevator. Our return on investment (ROI) was very quick against the cost of replacing the batteries. And, the cost and green aspects the flywheels took a large potential hazard off the reservation for the community, reflected Grant.

Compatible with all major brands of three-phase UPSs, the scalable VDC models ensure high-quality power 24x7 and are the perfect solution for users needing a more reliable, affordable and greener approach to backup power.

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## Benefits of VYCON's Clean Energy Storage Solution:

- Reliability Improvement - 20X higher MTBF than a single string of batteries
- Small footprint - modular, scalable and compact
- Less cooling required - saves energy and costs
- Energy efficient - 99.4% efficiency at 450kW
- Substantial ROI - Save hundreds of thousands of dollars over batteries
- Simple installation
- N+1 redundancy options
- Wide temperature tolerance