

GENERAC®

INDUSTRIAL POWER

ENTERTAINMENT COMPLEX

Ohio

CASE STUDY

CHALLENGE:

Provide reliable and consistent power to a facility where utility power is not particularly reliable.

SOLUTION:

Generac 5.5 MW MPS solution consisting of five, 1000 kW Gemini diesel generators and one MD500 kW diesel generator.

RESULT:

An innovative solution utilizing Generac MPS to maximize redundancy and reliability.



More Redundancy; More Reliability

When designing for a large entertainment complex with multiple restaurants, a concert venue, harness racing and more, a backup power system was key to the design. The Ohio racino could face natural disasters, man-made problems and other less life-threatening matters like blackouts. A generator system can keep the lights on, allow computerized elements to continue working and life safety systems will stay operational.

To ensure reliable and consistent power, Generator Systems, LLC installed a Generac 4 MW solution. The scalability of Generac's Modular Power System (MPS) let the facility expand on that initial system. Now, a 5.5 MW MPS is providing backup power to the racino. "The system consists of three separate MPS," said Jim Hamman, Generator Systems, LLC. "The system includes five, 1000 kW Gemini diesel generators and a MD500 kW diesel generator." With this solution, the customer saw an increase in redundancy and serviceability.

For the last several years, the generators have been put to the test and they have kept the facility operating at all times. "Utility power is not particularly reliable at the site," said Hamman. "Subsequently, the generators are used relatively often. For years, they have

worked without incident, but we did have an occasion where a lighting strike hit the system." After the storm, the facility brought out Hamman to perform maintenance on the systems. Hamman conducted a load bank test, which ensures that the generator will run at proper rating. Load bank testing simulates the designed usage of the generator at the advertised rating. While performing the monthly load bank test at the facility, a problem was diagnosed.

"The lightning strike took out a power manager system controller (PMSC)," said Hamman. "A PMSC can be considered the main brain of the paralleling system. A failure results in a loss of communication in the system, meaning key features of the paralleling system will not work properly." Paralleled Generac generators see the highest degree of reliability from a generator at 99.999% and one key piece to that is the PLS. "Each system includes a redundant PLS load shed/ permissive controllers," said Hamman. "In the absence of the PMSC, the PLS took over and operated without system failure." Generator Systems, LLC was able to replace the PMSC the same day.

Quarterly servicing and inspections are performed on each of the generators at the racino to ensure peace of mind. "We perform

CASE STUDY More Redundancy; More Reliability



APPLICATION:

Entertainment

SYSTEM CONFIGURATION:

5.5 MW MPS

MODELS:

5x 1000 kW Gemini diesel generators,
1x MD500 kW diesel generator

quarterly building transfer tests, we have flushed coolant and changed belts and hoses on each engine,” said Hamman. “While the system is large, servicing the generators is comparably easy. The configuration as originally designed, two 2000 kW diesel generators, would have been more expensive to service. Rental generators would have been required for each major service. That is not the case with this MPS. We can take one engine down and still fill the needs of the facility.”

Thanks to the work done by Hamman and the rest of the Generator Systems, LLC team, the facility and all of its guests have confidence that the facility will have power and stay operational, no matter what.