

# POWER PROFILE

Customer: Coushatta Casino Resort

## Location:

Kinder, La.

## Customer Business Issue:

Standby power

## Solution:

Cat® 3516 diesel gensets (5)

3512 diesel generator

C32, C15 (2), C9, C4.4, D80-4 diesel gensets

Paralleling switchgear

Remote Asset Monitoring

## Cat® Dealer:

Louisiana Cat



*Due to Coushatta's remote location and close proximity to the Gulf Coast, the resort relies on several Cat generators for backup when grid power becomes unreliable.*

## POWER NEED

Encompassing 880 total acres, the Coushatta Casino Resort is one of the top 10 largest private employers in the state of Louisiana with 2,200 associates.

Located 35 miles northeast of Lake Charles, the resort operated by the Coushatta Tribe of Louisiana offers a 115,000-square-foot gaming floor, six restaurants, two different hotels with more than 700 guest rooms, and an RV camping area.

Koasati Pines at Coushatta is the top-rated golf course in Louisiana and is ranked number 18 in the country by *Golf Advisor*. Other options for entertainment and recreation include a 4,400-seat arena for concerts, bull riding, and powwows, off-track betting, several large swimming pools, and a new 20,000-square-foot conference center that is currently under construction.

Given the resort's remote location five miles north of the town of Kinder, it sits at the end of the transmission line from its electric power utility. This results in voltage fluctuations, which can have a detrimental effect on casino operations, as well as other areas of the resort. Given its location near the Gulf Coast, the region is also highly susceptible to hurricanes.

## SOLUTION

In order to safeguard the casino and resort properties from full-scale power outages and voltage sags, the casino relies on backup power supplied by a fleet of 11 Cat® generator sets, including five 3516 diesel gensets and a 3512 diesel generator. Altogether, the entire Cat fleet is capable of producing 13.5 megawatts of power.

Maintaining continuous power is critical for casino operations. This includes safeguarding the older reel-type slot machines, which many patrons favor.

"Once they go down, there's a chance they may not come back up," says Bobby Thornton, director of marketing for the casino. "The electronics in many of those slot machines are pretty dated and they've seen a lot of use. So first and foremost, the objective is to keep those up. Secondly, we need to keep the lights, cameras, and all aspects of the casino floor functioning so that we can maintain the data from our player tracking system and have gaming protection.

"If we don't have backup power from our generators, we wouldn't be able to run the casino the way the state compact requires us to," Thornton adds. "It also allows us to continue our restaurant operations."

Two 500 kW uninterruptible power systems (UPS) positioned at each end of the casino ride through any power anomalies and ensure that all slot machines stay online. Due to the frequent fluctuations in voltage, the Cat 3516 diesel generator sets are called upon based on the

duration of the anomaly to ensure the UPS systems remain available for additional power fluctuations, even when there is not a full-scale utility outage.

The multitude of generators at Coushatta is necessary to back up various parts of the resort. In addition to four 3516 diesel generator sets that back up the casino, another 3516 backs up the 1,500-ton casino chiller plant.

Elsewhere, two Cat generator sets—a C9 and a 3512—provide standby power to the 401-room 7 Clans Hotel and 208-room Grand Hotel. (This summer, a 1 MW Cat C32 will replace the C9 at 7 Clans.)

A Cat C15 500 kW genset ensures Coushatta's wastewater treatment plant never loses power, while a new Cat C15 generator will back up the resort's hotel laundry operation. Also, a Cat C4.4 genset provides backup to the Central Services building, while a D80-4 genset backs up operations at the maintenance building.

Given the complexity of operating and maintaining so many generators on-site—not all of them are called on to run at the same time—facilities staff asked their Cat dealer to provide a remote solution.

Cat Connect Remote Asset Monitoring enables generators to be monitored remotely and significantly exceeds the capability of a Supervisory Control and Data Acquisition (SCADA) system. Today, SCADA is being eclipsed by remote monitoring and control via internet and wireless communications.

Among the many benefits of remote monitoring, it enables operators to receive continuous data on engine and electrical parameters, receive real-time alerts and alarms, detect engine or generator faults that could threaten a shutdown or failure to start, and generally optimize performance.

"Right now, when we have a voltage bump or we see our lights flicker and we get a notification that the UPS is activated, we have to send people to the generators to see if they're running," says Rusty Curtis, executive director for facilities at Coushatta Casino Resort. "With Cat Connect, you are able to be notified when they're running and you can see it remotely. You can see it from your house, wherever you have a cell phone.

"And there are so many other things you can monitor as far as the characteristics of the generator operation," he says. "So, the advantage for us is we don't have to be there to know what's going on.

"I think the biggest thing we will benefit from is not only knowing when the generators come online, but also having the ability to look at each unit remotely and check fuel levels," Curtis adds. "So in the middle of a two-week storm, our facilities guys don't have to keep riding around and verifying how much fuel is left. They'll be able to remotely just access all the generators and

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look at fuel levels and more efficiently schedule fuel deliveries. That will save on personnel riding around and physically doing this stuff.”

A remote monitoring deployment starts with a site assessment that takes an inventory of the gensets, their controls, and the data those controls collect. Once engineered, deployed, and tested, a remote monitoring application such as Cat Connect can monitor a genset fleet of essentially unlimited size with units of different ages and from a diverse mix of manufacturers.

For the switchgear upgrade and integration of Cat Connect, Coushatta's Louisiana Cat account rep, Corey Dupuis, brought a team of engineers to conduct a walk-through of the existing equipment.

“They go through any specific requirements or options that we want, and they are very hands-on and hold our hands through the entire design process,” Curtis says. “Then they touch base during installation to determine if any changes or anything else is required. So they make the process much easier. We tell them what we need and then that's what they make happen.”

## RESULTS

In the fall of 2020, Louisiana experienced the most active hurricane season in state history, as five tropical systems, including three hurricanes and one major hurricane, made landfall. Southwestern Louisiana and, specifically, the Lake Charles area, saw two direct hurricane landfalls within a six-week period. That included Category 4 Hurricane Laura, the strongest storm to make landfall in the state in over 100 years.

After Hurricane Laura roared inland on Aug. 29 carrying sustained winds of 149 mph and leaving devastation and floods in its wake, Coushatta Casino Resort lost power from the utility grid for two weeks. The fleet of Cat gensets ran for two straight weeks, burning 15,000 gallons of diesel fuel per day. The resort became an oasis of stability as resort staff, tribal members, hotel guests, and utility workers sheltered there during storm recovery efforts.

“Those generators are our lifeblood,” Curtis says. “During Hurricane Laura, we had first responders staying here along with tribal members that we put up in our hotels. We were sheltering a lot of people who could not get to their homes. And we had associates who were living here so that we could operate the essential functions of the casino to help maintain food service, facility operations, and security and emergency response capability for all the people that were staying here.”

In the wake of Hurricane Laura, the surrounding area was without power for up to a month. As the only restaurant that stayed open following the hurricane, the resort's Lagniappe Market food hall provided sustenance for guests, casino staff, and tribal members.

“We had utility line crews with 70 to 80 bucket trucks that stayed here,” Curtis recalls. “Some of them stayed in our pavilion or in chalets. Some of them brought RVs and stayed in our 100-slip RV park as well. We were able to support them so they could deploy from our property out to the different parishes.

“Power was definitely in short supply, and the fact that we had it actually allowed us to open up faster than we would have been able to otherwise,” Curtis said. “The casino is the lifeblood of the tribe, so the sooner we were able to get the casino back up and running, the better off the tribe was.”

Coushatta has developed a reputation for being a safe haven when it comes to having reliable power.

“When we had the hurricanes last fall, people chose to come to us as opposed to staying at home in certain cases because they felt that it was safer,” Thornton says. “And by the time ice storm hit Texas in February, there were quite a few guests from Houston who knew they were going to be out of power, but they knew the casino would have it. The reputation we have is that we'll have power when other places do not.”

During hurricane season, having power also allowed dryers and fans to run, which helped deter the potential for mold to develop. In the hot, humid climate, this could have resulted in structural damage that would have cost millions of dollars to repair, Curtis said.

“I'm probably a 10th-generation facility manager out here, and the Cat equipment—whether it's switchgear, generators, or automatic transfer switches—has always been a quality product,” Curtis says. “It's reliable and it runs when we need it. And Louisiana Cat has always provided excellent service. So, it's not only the quality of the products, it's the quality of the people.”

On a Sunday before an ice storm in February, Curtis received a text from the Coushatta tribal chairman asking if the 7 Clans Hotel had backup power. He contacted his Louisiana Cat representative, who helped expedite timely delivery of a 1 MW rental power generator.

“Actually, the next day we did lose power for a short time and needed it,” he says. “The fact that they were able to get a generator and a technician out here on short notice was incredible. Everything was connected and ready to go by 6:30 the night before the storm.”

Curtis relies on technicians from Louisiana Cat to keep his large fleet of gensets up and running.

“We've had some technicians who turn out to be parts changers, meaning they don't really know how to fix the problem,” he says. “Whereas, when the Louisiana Cat technicians come out here, they come with the right equipment and the right training. When they walk away, it's fixed. Cat technicians will come out and fix it when nobody else can figure it out.”



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