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CASE STUDY

Modernizing Critical Power Infrastructure at Hotel Playa Grande Resort

G&W Electric Retrofits Automatic Control Solution

The Hotel Playa Grande Resort is a luxury beachfront destination located in the heart of Los Cabos, Mexico, renowned for its stunning views of the Pacific Ocean and its blend of traditional Mexican charm with modern amenities. Catering to international travelers, the resort features world-class accommodations, fine dining, spa services, and recreational activities, making it a sought-after location for both leisure and business guests. Its commitment to providing exceptional guest services includes maintaining state-of-the-art infrastructure to ensure comfort, safety, and uninterrupted operations.

The opportunity: Balancing Innovation with Continuity

The Hotel Playa Grande Resort recognized an opportunity to enhance the reliability and efficiency of its power infrastructure while addressing a pressing need for modernization. For premier tourist destinations, uninterrupted power supply is critical to maintaining operations and ensuring guest satisfaction. The resort's existing setup had performed reliably for decades but some of the equipment was nearing the end of its lifecycle.

Rather than opting for a full system replacement, which would be costly, time-intensive, and disruptive, the resort sought an innovative solution that would integrate state-of-the-art automation technology with its existing infrastructure. This presented an opportunity not only to extend the life of critical equipment but also to introduce modern features that set the stage for future upgrades and a transition toward smart grid solutions.

The Challenge: Navigating Obsolescence in a High-Stakes Setting

The Hotel Playa Grande Resort relied on a legacy ATC201 control paired with a G&W Electric pedestal-type switch featuring SF6 insulation. For over two decades, this combination ensured seamless switching to the resort's emergency generator during outages, maintaining uninterrupted power supply critical to its operations.

However, the ATC system had become increasingly problematic. Despite multiple repairs, the system failed again, and the manufacturer confirmed that it was obsolete, with no spare parts or technical support available. The switchgear, on the other hand, remained in proper working condition and could continue operating effectively.

Given the importance of this equipment for transferring energy to the emergency plant in the absence of power from the Comisión Federal de Electricidad (CFE), the resort faced a pressing challenge. A full system replacement would require re-engineering the associated infrastructure, a costly and time-intensive process involving months of downtime. Instead, the resort sought a solution that would modernize the critical ATC system while retaining the functional switchgear.

The Solution: A Disciplined Approach to a System Upgrade

G&W Electric proposed a targeted upgrade to the resort's power infrastructure, focusing on integrating modern automation technology with the existing system. This hybrid approach retained the reliable G&W Electric switch while replacing the outdated ATC with a state-of-the-art retrofit ATC control solution using a SEL-751A relay. The SEL-751A is a microprocessor-based feeder protection relay widely used in electrical distribution systems to protect circuits and equipment against faults such as overcurrent, short circuits, and other anomalies.

The upgrade process involved a three-phased approach:

1. Diligent Assessment and Planning

A team of G&W Electric engineers conducted a detailed inspection of the switch to confirm its operational integrity. The assessment revealed that the switch, though over two decades old, remained in excellent condition and could be safely reused. Recognizing the resort's need for a quick and practical solution, G&W Electric recommended installing the retrofit ATC control solution. This system offered full compatibility with the existing setup and ensured future scalability.

2. Seamless Integration of New Technology

The replacement process was highly methodical, minimizing risk and downtime. First, technicians de-energized the legacy ATC control and dismantled its components, ensuring all connections were carefully labeled for accurate reassembly. Next, the retrofit control solution was installed and configured to integrate with the switch and the resort's generator. The upgraded system underwent rigorous testing, including a simulation of power outages to verify seamless switching between utility and generator sources.

3. Efficient Project Execution

G&W Electric leveraged its local expertise to execute the upgrade efficiently. The entire disassembly, installation, and testing process took only six hours, avoiding prolonged downtime. Spanish-speaking technicians ensured clear communication with resort staff, enabling smooth collaboration and cooperation.

Key Features and Benefits of the Retrofit ATC Control Solution

Comprehensive Protection

- The new relay provides overcurrent protection, including phase, neutral, and ground fault detection
- Advanced fault identification features like arc-flash detection improve safety

Enhanced Monitoring and Diagnostics

- Real-time fault detection and sequence of events recording improve response times
- Historical data logging allows for predictive maintenance and enhanced reliability

SCADA and Smart Grid Compatibility

- The relay is SCADA-ready, enabling integration with advanced automation solutions
- Enhanced communication features support future smart grid transitions

User-Friendly Design

- Intuitive programming templates simplify setup and maintenance
- Large, easy-to-read push buttons and displays facilitate quick access to system information

Sustainability and Scalability

- Retaining the G&W Electric switch reduces waste and extends the life of existing infrastructure

The Results: Reliability, Savings, and Sustainability

The successful upgrade of the Hotel Playa Grande Resort's ATC system delivered significant benefits on multiple fronts. For one, operational reliability was greatly enhanced as the upgraded system ensured seamless switching between utility and generator power during outages, maintaining uninterrupted operations. Additionally, advanced diagnostics and fault detection capabilities reduced the risk of unplanned disruptions, providing the resort with greater peace of mind.

Cost savings were another key outcome of the project. Retaining the existing G&W Electric switch eliminated the need for a full system replacement, saving both time and resources. The swift, six-hour upgrade minimized labor costs and avoided the revenue loss that extended downtime would have caused.

The project also resulted in improved safety and efficiency. Enhanced monitoring capabilities gave the resort real-time visibility into system performance, enabling quicker responses to potential issues. Moreover, the new system's user-friendly interface simplified operations, improving safety and ease of use for on-site personnel.

The resort expressed high satisfaction with the outcome, praising the efficient execution and reliability of the upgraded system. Finally, the project aligned with the resort's commitment to sustainability by reusing the existing switchgear, reducing waste, and maximizing the value of existing infrastructure.

Customer Snapshot: Hotel Playa Grande Resort

Location: Los Cabos, Mexico

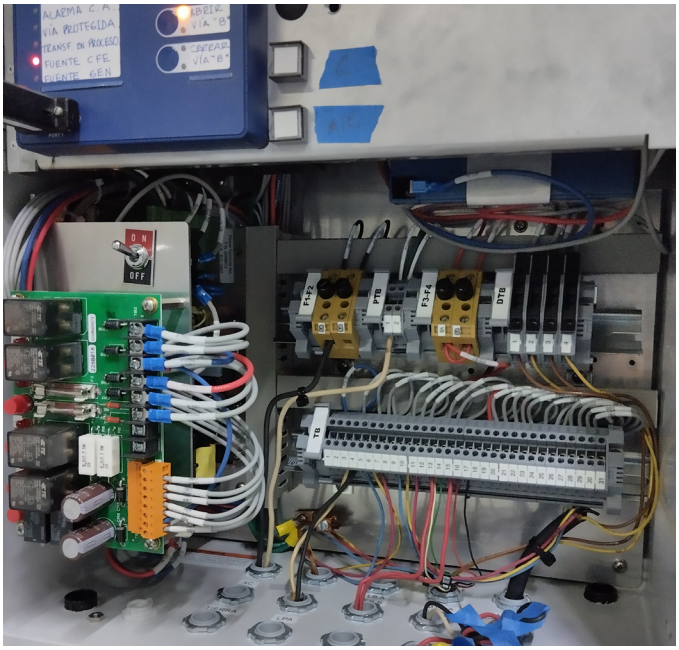
Existing Equipment: G&W Electric legacy ATC-200 (obsolete) system

Upgrade: SEL-751A relay-based automatic transfer control system

Timeline: Six-hour installation; project completed within seven months of initial assessment

Results: Enhanced reliability, cost savings, safety, and sustainability

> *"The G&W Electric retrofit ACT solution upgrade not only modernized our power system but also ensured uninterrupted operations and enhanced safety—delivering reliability we can count on."*
>
> **Hotel Playa Grande Resort Management**



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Conclusion: A Model for Future Success

The Hotel Playa Grande Resort's ATC upgrade showcases the value of combining innovative technology with current infrastructure. By delivering a solution that was efficient, reliable, and sustainable, G&W Electric not only met the immediate needs of the resort but also set the stage for future growth in automation and smart grid solutions.

In the end, this project demonstrated the importance of flexibility and customer-centric innovation in modernizing aging infrastructure. G&W Electric's ability to integrate cutting-edge technology into a legacy system provided a blueprint for similar upgrades across Mexico and Latin America, where many facilities face the challenge of maintaining outdated equipment.

Key takeaways include:

Listening to Customer Needs

G&W Electric's collaborative approach met the resort's specific requirements—balancing cost, reliability, and operational efficiency—without the need to replace the entire solution.

Local Expertise Matters

Providing local, Spanish-speaking support enhanced customer confidence and streamlined project execution.

Adapting to Regional Challenges

In regions where replacing entire systems may be impractical or cost-prohibitive, adaptive solutions like this one offer a viable path forward.

From Obsolete to Optimized: 7 Steps to a Smooth Transition

G&W Electric undertook the following steps to make upgrading the ATC a seamless process.

I. **Pressure Verification**
Verified the SF6 gas pressure in both pressure gauge on the switch to ensure safe operating conditions.

II. **Power Supply Deactivation**
De-energized the 120V power supply of the ATC-200 control. Disassembled batteries and labeled connections for control cables, motors, and sensors.

III. **Dismantling the Obsolete Control**
Fully dismantled the existing ATC and measured dimensions to prepare for the installation of the G&W Electric retrofit ATC solution.

IV. **Installation of the New System**
Installed the control cabinet with relay, connecting the 120V power supply, SF6 LWPD (Low Warning Pressure Device), voltage sensors, and servomotors.

V. **Testing and Programming**
Performed parameter testing and verified programming to ensure the new ATC operated correctly.

VI. **Calibration and Adjustment**
Calibrated and retightened connecting rod pushers inside the servomotors on both tracks to optimize performance.

VII. **Simulation and Final Verification**
Conducted simulation tests to confirm seamless automatic power transfer. Identified and resolved minor issues with external components to finalize the setup.

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