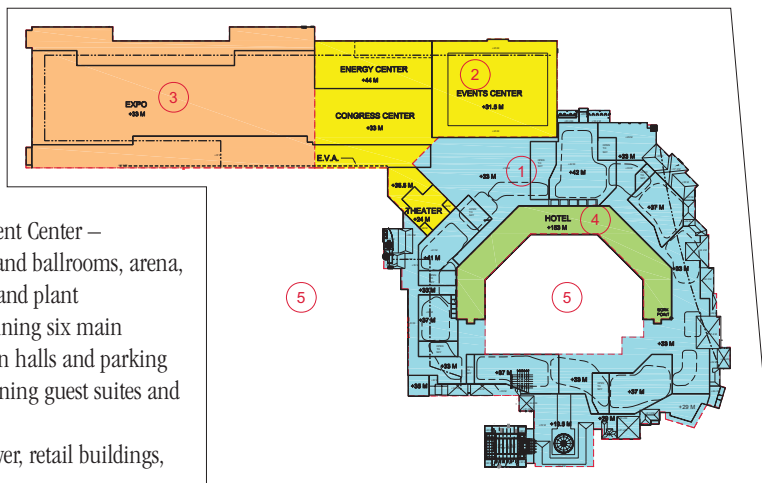


Coordination and Stamina Ensure Asia's Largest Building Is Open on Time

Challenge. The Cotai Strip™ is a new gaming vision begun in China in 2004 taking reclaimed land between the islands of Coloane and Taipa to be transformed into a mega resort. To take this earthly property from underwater to commissioned-for-occupancy in just three years time is quite a remarkable feat. The \$2.4 billion Venetian Macao Resort Hotel is the first complete parcel of eight. It brings together 600,000 square feet of gaming space, 3,000 all-suite hotel rooms, 15,000-seat sports arena, retail space for 350 stores, 1.2 million square feet of convention space, parking, mechanical and office support. Total area adds up to more than 11.5 million sq. ft., making it the second largest building in the world behind the Boeing Company plant in Washington state. Rolf Jensen and Associates (RJA) was brought in to provide third party services for the local fire department. At the peak of construction there were 20,000 people working in some way on this project. Installed were approximately 3,600 smoke and heat detectors, 5,200 control and monitor modules, 9,800 audible devices, 6,200 strobes, 100,000 sprinkler heads, 25 peer-to-peer fire alarm panels, 207 amplifier panels, 416 power booster panels, 4 deluge systems and much more.

Solution. From the beginning and throughout the entire project, education was a key element. Initially RJA needed to educate themselves concerning local language, customs and culture. Then their task was to educate everyone involved about IBC requirements and testing. Another key element was to break down the massiveness of the project into manageable pieces. The Venetian Macao project was divided into five major zones:

1. Podium – containing six levels of gaming, retail, restaurants, mechanical areas, offices and roof golf course
2. Energy, Congress, Event Center – containing meeting and ballrooms, arena, electrical substation and plant
3. Expo Center – containing six main exposition/convention halls and parking
4. Hotel Tower – containing guest suites and related spaces
5. External Works – tower, retail buildings, pool and lagoon



From these, each zone was divided into multiple sub-zones. Most major zones were separated by fire resistant construction. These fire resistant separations were provided in order to meet egress needs, evacuation signaling zoning, smoke control, fire zone limitations and other code requirements.

The final key element was to stress the importance of staged zone completions so that design reviews, inspections and commission testing could occur in a manageable manner. RJA worked closely with the resort's construction management team to understand their priorities. The success of this project hinged on effective communications and project management.

Result. Design reviews, inspection of appliance placement during construction, testing and commissioning were the order of business. After each sub-zone was tested, the interface operations for all sub-zones and adjacent major zones were verified. Although this required redundant testing in some areas, it did provide commissioning to go forward in an efficient manner. This commissioning effort could not have been accomplished without proper planning. Equally important was the interface with the local fire department and other government agencies.

The Venetian Macao Resort Hotel on the Cotai Strip™ in Macau, China, opened as scheduled on August 28, 2007. This date was chosen based on feng shui principles of success. RJA overcame the odds to achieve life safety success on a grand scale.



■ Construction Management



rojainc.com

