



## Testing Specialties Inc. – Building Systems Commissioning

### Project Name: **Windsor Casino Case Study**

Project Detail: Estimated Construction Budget  
\$340 Million Dollars



Construction of New 25 Story Hi-Rise Hotel, 100,000 Sq. Ft. Gaming,  
Back-of-House, Public Areas, Four Story parking facility  
One-Half Ownership of project is the Provincial Canadian Government

Major concerns were to build a facility on the border with the USA that would attract both US and Canadian customers with several American casinos less than one mile away just across the border (Detroit River).

Major Obstacles to over come:

- Putting in place a construction team comprised of private companies that would work with the various governmental agencies that oversee Canadian gaming.
- Added Security and Monitoring systems
- Addition of Fire Fighter Control Center
- Dealing with high end customers
- Coordinating Dimming System Centers and Event Lighting
- Maintaining numerous Pressure Differential areas throughout facility
- Restrictive Fire Codes

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- Limited Construction site staging and storage area
- Addition of Computerized Maintenance Program
- Training large Maintenance Staff

Normally the commissioning team is put together at the onset of a project. This project was well under construction when TSI was asked by the owner representative and design engineer to participate as the commissioning agent.

The scope of this project was to have TSI perform construction overview of the MEP trades and to assist the owner with the day-to-day Quality Assurance and Quality Control issues and to perform the building systems commissioning. As part of the commissioning process TSI was also tasked with implementing a complete owner training program for all building systems for the project including assisting the staff in the development of their preventative maintenance program.

#### **Case History Statement:**

The project was of such size that both the architect and engineer maintained a full time onsite staff. Within this office was a project group of engineers, CAD technicians, and office support personnel who ran the mechanical, electrical and plumbing portions of the project. This staffing arrangement turned out to be a huge plus as portions of the project grew in size and scope as the project progressed. The on-site staff was able to respond to this dynamic design environment quickly thereby minimizing project delays. Having all decision makers present allowed decisions to be made in hours vs. the normal days or weeks for conventional projects.

#### **The following notations were taken from actual field notes taken by our Commissioning Agent relating to Owner Personnel Training:**

**Problem observed:** As part of the commissioning plan, nearly 200 facility mechanical, electrical, and general maintenance personnel would require training for the new equipment and systems being installed. TSI was asked to participate in the development of the guide that would serve the casino personnel as well as the Windsor Fire Department personnel. The operating personnel were assigned to four rotating work shifts, (days, evenings, nights, off). The challenge was to develop a training program to insure all personnel received classroom and field training by the time the Casino opened to the public.





**Action Taken:**

TSI met with the facilities management team one year before the planned opening and began formulating the training needs based on the actual skill level of each of the employees. A questionnaire was used to obtain skill level and aspirations from each of the employees. A training program and schedule was developed to insure all employees would understand and comprehend the various systems installed in the new facility. Training tours were started while the building was still under construction with the plan being that the employees would have an opportunity to see where the various pipes, ducts and conduits were located prior to the ceiling and walls being constructed. As a direct result of the training tours several valuable suggestions for additional service and maintenance valves and cleanouts were added to the project.

All training sessions were video taped with a library of tapes presented to the maintenance department upon completion with all of the other project closeout documentation.

**Estimated  
Cost Savings:**

There are several sets of savings involved with this notation:

- a. All mechanical, electrical, and plumbing personnel had a working knowledge of the facility before it opened, numerous labor hours were saved by the maintenance department during the first year of operation because of this knowledge.
- b. As many as one hundred new hires were brought on board and were introduced to the facilities equipment via use of the video tapes. An estimate of 20 man hours per new hire was saved during their initial orientation training period.
- c. During the first year of facilities operations, countless labor hours were saved due to the fact that the maintenance personnel had complete systems knowledge. This knowledge further saved on warranty expenses, and unscheduled down time.

