SAM'S TOWN RESORT & CASINO
TUNICA, MISSISSIPPI

KEY PARAMETERS

- Type of Facility – Existing (EB)
- Function – Hospitality/Casino
- Area – 94,000sf 2-story gaming area
- Project Completed – 2004

Challenge: Tobacco smoke and residual tobacco smoke odors. The goals were cleaner air, increased comfort, and a payback period of less than five years. On busy week-ends, the original filtration system was not keeping up with the "cigar haze". In addition, the ventilation system was unable to control the humidity and maintain a set point in the gaming area.

Solution: Dynamic Super V-Bank Air Cleaners were installed in place of 4-inch pleated filters in mixing boxes on each of twelve 40-hp constant-volume air handling units. Heat recovery units and variable-frequency drives were installed on each of the air handling units.

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Results: The smoke and the smoke haze completely disappeared. Sam's Town was amazed at the reduction in odors.

With respect to comfort, the new system maintained a constant comfortable temperature and humidity level. Outdoor air fans in the heat recovery units modulate based on building occupancy data maintained in the BAS which also determines the rate at which fresh air is introduced into the casino. The VFDs on each air-handling unit modulate fan speed up and down based on the temperature inside the casino which is dependent on actual occupancy. IAQ sensors help ensure optimum conditions throughout the casino and can increase airflow if necessary. Exhaust fans on the heat recovery units are controlled by pressure inside the casino and maintain a slightly positive pressure in the building.

Footnote: The following year there was a fire in a kitchen area that caused smoke damage significant enough to close the gaming operation for a day, As the company considered closing the operation again for an expensive remediation, the smoke odor disappeared. Odor removal was attributed to the Dynamic Air Cleaners.

TEAM

- Owner – Boyd Gaming
- Engineers – Mid-South Trane
- Facility Manager – Steve Richey, Director of Facilities

MECHANICAL SYSTEMS

- HVAC – Trane
- Ventilation – Trane HRVs, ABB VFDs
- Bldg Controls – Trane Tracer Summit
- IAQ Sensors – Vaisala, Toxalert