

## NEVADA SURE BET PROGRAM

Offered By: NV Energy  
Administered By: KEMA Services, Inc.

### *American Nevada Company Earned LEED® Silver Certification for the Nevada Cancer Institute Support Services Building*

The American Nevada Company is one of the premier developers of office parks, retail centers, and master planned communities in the Las Vegas Valley. Their commitment to providing highly energy efficient buildings that support occupant's health and well being and enhance the local community is showcased with their latest project, the Nevada Cancer Institute (NVC) Support Services Building.

NVC is a non-profit organization dedicated to advancing knowledge about cancer through world-class research and medical and patient services to residents of Nevada, the Southwest region, and the United States. The new Support Services facility is a 101,000 square-foot, three-story building, with an adjacent parking garage, on 3.25 acres land at the NVC's Summerlin campus. NVC Support Services occupies the second floor of the building and will include a 200-seat conference center, administration offices, clinical trials offices, cancer registry, laboratories, and a medical education library. The project has achieved Silver certification under the U. S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED).

Energy efficient and components include:

#### **Enhanced Building Energy Systems Commissioning**

Enhanced Building Commissioning is a planned and systematic process that incorporates input from the owner, tenants, occupants, operations and maintenance staff, architects, and contractors that results in the goal of a high performance building, from design to operation. By including Enhanced Building Energy Systems Commissioning in their design strategy, the American Nevada Company verified and ensured that their tenant space is designed, constructed, and calibrated to operate as intended. Key strategies to successful building commissioning included:

##### *Design Review*

A Design Review was conducted prior to construction in order to evaluate the efficiency of the proposed equipment and systems. The review ensured the energy related systems were accurately based on the American Nevada Company's design goals and unique requirements. In addition to energy efficiency, the environmental impact and service clearances were evaluated to complete the review.

#### *Submittal Review*

The Submittal Review focuses on making certain the systems provide sufficient controls and functional ability to be properly commissioned. The review confirmed that the submittals met the owner's requirements, the operation and maintenance requirements, and that their performance could be tested regularly.

#### *Functional Performance Testing.*

On December 17<sup>th</sup>, 2008, the following systems were commissioned: air handler systems, exhaust system, split systems, ductless split systems, boiler, pumps, domestic hot water systems, and the electrical systems, including lighting controls. As testing occurred, the contractors simultaneously addressed any deficiencies.

#### *Systems Manual and Operator Training*

A systems manual was created based on the equipment submittals and including operating information, sequences of operation, and retesting and recalibration recommendations. This manual ensures that the facility staff has all the information needed to optimally operate, maintain, and replace, if needed, the commissioned systems. The owner's representatives were also provided with training specific to each type of equipment including: the location, environmental features, system alarms, system sequences, time scheduling, and trouble-shooting any mechanical issues.

#### *Building Operation Review*

A post-occupancy review was performed to review any construction deficiencies that were identified in the commissioning process to make certain they were properly mitigated. This review was essential in determining if the building is operating at the optimal level desired.

## **Optimizing Energy Performance**

Energy efficiency reduces the negative environmental side effects of energy production and use. Energy-efficient measures result in a more comfortable indoor environment while reducing operating costs. By implementing the various energy efficiency strategies described below, the American Nevada Company anticipates 22% energy savings and 17.8% cost savings. Strategies included:

#### *Building Automation System*

The Building Automation System (BAS) monitors and logs electrical consumption. The BAS performs by collecting information from equipment, performing calculations based upon this real-time data, and allowing for the mechanical system to provide a specific response to the information gathered. The ultimate goal of the BAS is to perform these three functions while meeting specific building requirements and consuming as little energy as possible.

#### *Airside Heating and Cooling System*

The Airside System serving the building was specifically chosen for its energy efficiency. The main energy savings stem from 1) highly efficient fan power and 2) programming the system to not

overheat or overcool a space. Additionally, with this type of heating and cooling system, the facility can take advantage of outside air instead of mechanical cooling when applicable.

*Space Zoning*

Each floor is zoned separately and served with an independent roof mounted, package, gas-fired heating and electrical cooling unit. Therefore, the individual tenants can control and monitor their indoor air space particular to their space demand and use.

### **Project Results**

Annual Energy Savings	84,886 kWh
Annual Energy Cost Savings	\$8,488.60
Performance Based Incentive	\$5,793.19