

Exhibit X.C.7
Energy Consumption Monitoring

Submit as Exhibit X.C.7, a description of plans for developing an ongoing system that will submeter and monitor all major sources of energy consumption and for undertaking regular and sustained efforts throughout the life--cycle of the facility to maintain and improve energy efficiency and reliance on renewable sources of power in all buildings and equipment that are part of the facility.

Initially, innovative design strategies will be incorporated to promote better building energy performance. The project will strive for energy efficiency of 16% or better. The project will also employ oversight and energy consumption monitoring strategies that improve long term operations and provide feedback loops to the operating engineers to extend smart energy use beyond the design and construction phases, including an enhanced commissioning regime that requires a follow up review ten months after substantial completion and a measurement and verification protocol compliant with the International Performance Measurement and Verification Protocol (IPMVP) Volume III. The Measurement & Verification (M&V) Plan that was successfully employed at the Rivers Casino in Des Plaines, IL relied on data loggers placed on all loads that are variable in nature. These data loggers were focused on power using equipment like variable frequency drives, fans that cycle, lighting systems that are switched, and process loads. Trendlogs were placed on all of the equipment that is monitored or controlled by the building automation system (BAS). These trendlogs were set in 15 minute intervals for all points in the system. Meter data was collected for gas usage and electric usage to compare to the calculated load usage from the M&V process. The systems monitored included: Lighting Systems including interior and exterior lighting panels, HVAC Systems including all equipment process loads and plug loads. On systems with variable load, including staged compressors, variable speed pumps, variable speed fans, and process loads amperage trendlog information was used to ascertain the energy usage vs. the outside air temperature. When loads are constant, single readings were used for amperage and applied to the trended runtime on the equipment. Lighting systems had single readings taken from the panels, and usage information came from the lighting program schedule to show overall energy use for the year. Process loads were data logged at the panel level to determine weekly energy use and will remain constant throughout the year in the final results. This process is an example of the efforts made at measurement and verification at a similar project implemented by the Applicant's affiliate. The project described herein will develop a customized M&V plan to improve building energy performance.