



June 29, 2011

City of Kennedy
Kennedy, Minnesota 56733

RE: The Kennedy Center
306 West Third Street
Kennedy, Minnesota 56733

On June 21, 2011 Martin Mechanical Design, Inc. staff visited the The Kennedy Center in order to evaluate the geothermal heating and cooling system. The system appears to be a water to water geothermal heat pump system with horizontal loop field and fan coils for heat delivery. The system offers no ventilation (i.e. make-up fresh air) which is contrary to building code. The system appears to be 16 tons of cooling and is of inadequate capacity to meet all existing building code requirements.

The system is served from the Ottetail Power Company and electric rates are in the 6.8cents/KWH range. This rate is quite excessive and will not allow the geothermal system to return its investment. Based upon this electric rate, the geothermal system was not a good choice for a heating and cooling system for your facility. This system appears to meet the bid requirements outlined. The items installed appear to meet the bid requirements and the subsequent contractor's proposal.

The piping in the tunnels needs to be insulated to insure more heat gets to the spaces. All tunnel areas need to be closed off from the unheated parts of the building.

The temperature calculations appear to be based upon a 16 degree F water temperature (as noted in correspondence) and should have been in the range of -30 degree F to provide an adequate design. The wind turbine appears to be producing very minimal energy. Its performance should be checked.

It is our recommendation that the City of Kennedy expand the system to properly meet present day building codes. The utility bills for the facility will remain where they currently are. If the city cannot afford these levels of expenditures, we would recommend shutting the facility down and selling what you can of the heat pump system.

Sincerely,
Martin Mechanical Design, Inc.

A handwritten signature in black ink, appearing to read 'Dennis Martin', is written over a horizontal line.

Dennis Martin, PE
President