

Portland Engineering has experience with a variety of food process facilities. We got our start by providing piping engineering for a grass roots chilled water plant at a Portland Bakery. The plant was designed as a combination facility providing both HVAC chilled water and Process chilled water. PEI provided all piping and mechanical engineering services for the 1,200 ton facility. This included an energy analysis of for sizing the chilled water plant, cooling tower, pumps, piping and insulation requirements.

The facility's distribution pumps were specified by PEI with VFDs and the entire control strategy for the plant was written by PEI. A clever supply and return differential pressure control strategy was provided rather than the standard control using only pump discharge pressure resulting in a more energy efficient and better performing system. In addition, PEI provided a design utilizing the cooling tower water with a dedicated plate heat exchanger to remove heat from the process chilled water loop when outside wet bulb temperature was in acceptable conditions, and of course, all automatic.

PEI designed the entire bakery chilled water distribution system which spanned nearly an entire city block as well as three floors in the tower area of the Bakery. This was all new installation including all of the control valves at each of the 30 plus AHU's on the chilled water system. Most of the steam piping was existing from the late 1940's bakery construction. PEI specified and oversaw installation and commissioning on all of the Chillers, Cooling Tower, pumps, all distribution piping to approximately 30 plus AHU's on the system and PEI even walked the design though permitting at the City of Portland.

