

MEMORANDUM

Date: April 20, 2012
To: Water Right File 63-31354
From: medl
Re: records search

To confirm the cooling system operation conditions and capacity, I requested records from several sources.

Although the permit did not require record keeping, it is good practice, especially in larger facilities to maintain some records of operations. I found that the building automation system was not configured to provide trendlines or to archive data. Separate handwritten operation logs of the building system s were not kept and the operation and maintenance staff has turned over since the field exam.

The cooling system's performance data was not available in the O&M manuals that had been provided to the building s O&M staff by the mechanical design firm. And the mechanical system design firm had purged their project files for the Water Center a few years prior to this review.

I requested and received cooling system equipment performance data from the manufacturers.

Tranter personnel provided a copy of the original drawing and operating conditions for the cooling heat exchanger.

Trane personnel provided max/min operating limits and the translation of the chiller model number which describes the details of its custom design.

I requested and reviewed the commissioning manual for the Water Center. The commissioning, which included water balancing, was completed by Turner/McAlvain Construction. The Water Center building would not have occupied for most of 2004. Commissioning of the building was ongoing from March 2004 through September 2004. (Commissioning is a quality assurance process which ensures that the building systems perform as intended.)

Excerpts from the water balance report confirm that the building cooling system was in place and operational in sometime in June 2004. The water balancing reports show that the chiller cooling system used 497.5 gpm in the building loop (the loop through the evaporator) and supplied 3,277,171 BTU (273.01 ton) in cooling. The chiller was checked for operation and functionality on June 2, 2004. But no records for the condenser water flow rate, concurrent with the evaporator flow and balancing were provided.