

JAIL RETROCOMMISSIONING STUDY



CLIENT: Washington County, OR

PROJECT: Washington County Jail

SERVICE: Retrocommissioning Study

SF: 275,000 sf

PROJECT COST: \$39,220

PROJECT TIMELINE: 2016

COMPLETION DATE: 2016

■ BACKGROUND

The Washington County Jail is an 18 year old facility with HVAC systems that did not appear to be performing at an optimal level. In addition, the Direct Digital Control (DDC) control system has become antiquated. This system while still functional is nearing the end of its useful life. Furthermore, the DDC technology does not currently allow County staff to continuously commission the facility's HVAC systems.

■ CHALLENGE

Our team needed to understand the building usage and system dynamics in order to find measures to maximize the efficiency of the existing HVAC systems and then needed to catalog potential Energy Efficiency Measures (EEM) and evaluate potential energy savings and construction costs for measures using the existing control system as well as a new DDC control system.

■ SOLUTION

Careful examination of data collected showed opportunities for simple energy savings. PlanB's recommendations included the installation of a new control system; installation of OSA dampers and heating coils for Air Handling Units (AHU); replacement of existing boiler to two 4,000 MBH dual fuel boilers; and addition of a buffer tank to reduce cycling of boilers and optimizing boiler/respective pump controls.

■ SO WHAT

The findings show that the implementation of the above recommendations would result in an expected savings of 37.2% electricity consumption and 64.0% of gas usage, which translates into a total annual savings of \$327,893.88.