OPPORTUNITY
What is the impact of improved chiller operations on GSA?

TECHNOLOGY
How does the Control Optimization System for Chiller Plants work?

OPTIMIZES SYSTEM PRESSURE AND TEMPERATURE DIFFERENCE (DELTA T)
MANAGES CHILLER LIFT AND FLOW BY MONITORING AND CONTROLLING FIVE INTERDEPENDENT SYSTEMS
Climbing Towers (CT), Chillers (CH), Condenser Pumps (CTP), Chilled Water Pumps (CHP), and Air Handler Units (AHU)

M&V
Where did Measurement and Verification occur?
PACIFIC NORTHWEST NATIONAL LABORATORY assessed a control optimization system for chiller plants provided by Siemens at the Frank M. Johnson Jr. Federal Building and U.S. Courthouse in Montgomery, Alabama

RESULTS
How did the Control Optimization System perform in M&V?

35% COOLING SAVINGS
+/− 10% uncertainty due to estimated baseline

5 YR PAYBACK
At avg. cost of $0.11/kWh

BEETRER VISIBILITY & CONTROL FOR PLANT OPERATIONS

Increased Efficiency, Especially at Part Loads
Performance averaged 0.84 kW/ton after control optimization

DEPLOYMENT
Where does M&V recommend deploying the Control Optimization System?

CENTRIFUGAL CHILLERS WITH LOADS > 3 MILLION TON-HRS/YR
Also consider for incorporation into new all-variable-speed chiller plants, where both installation costs and energy savings may be lower.

2Ibid, p. 9
3Ibid, p. 38
4Ibid, p. 7