DELTA T BUILDING DESIGN BEST PRACTICE

Customer will use commercially reasonable efforts, including, without limitation, implementing the following Best Practices, to achieve the Design Return Temperature. Customer is recommended to monitor and take corrective action to achieve this design temperature.

1. Select cooling coils for an entering chilled water temperature 1°F or more above the Design Supply Temperature, and for a return temperature 2°F or more above the Design Return Temperature (for example: Heat Exchanger selection design is 44°F/59°F, size the coils for 45°F/61°F). Monitor return temperature and take corrective action if it falls below the Design Return Temperature.
2. Specify properly sized pressure independent control valves (**two-way**) to optimize stability and cooling coil performance so that a high delta T (Design Return Temperature and higher) can be achieved for the building and plant. ***Three-way valves and bypasses*** will lower the return water temperature and a 6% per degree penalty is charged to the customer for each degree below the required return temperature. This penalty is based on the total monthly billing of the Commodity Charge.
3. Control valves should be a high-quality valve capable of control and positive shut-off under the highest expected pressures.
4. Omit external balancing devices.
5. Use run-around pre-cooling/preheating coils for make-up air.
6. In existing buildings, **replace three-way bypass control valves** with two-way control valves and **eliminate bypasses**.
7. Close control valves when air handling unit fans are off.
8. Reduce chilled water flow at partial load by use of variable frequency drives “VFD’s” or other means as approved by SAWS.
9. Eliminate constant speed chilled water “booster” pumps.
10. Specify actuators capable of positioning the valve at low flow conditions.
11. Provide scheduled maintenance of water treatment services to protect and optimize piping, coils, and Heat Exchangers on the Customer’s side of the Heat Exchanger(s).
12. All of Customer’s chilled water piping shall be flushed and passivated by a water treatment professional prior to commissioning.
13. Specify DDC control to achieve precise valve positioning.
14. Treat sensible cooling and cooling/dehumidifying separately.
15. Use two cooling coils in series, single pass. (Optional)
16. Calibrate and protect temperature and humidity sensors.
17. Minimize waterside fouling and airside restrictions.
18. Elevate chilled water supply temperatures at partial cooling loads.
19. Replace marginally performing cooling coils.

Reference:
“District Cooling Best Practice Guide (2008 First Edition),” International District Energy Association, www.districtenergy.org.