REQUIREMENTS OF DATA CENTERS AND SERVER ROOMS   **1820.3**
(New 11/2014)

1. By December 31, 2014, all state-owned and leased data centers and server rooms greater than 200 square feet shall be operated within the 2011 ASHRAE - TC 9.9, Class A1 – A4, recommended guidelines for temperature and humidity in addition to all applicable 2013 Title 24 Building Energy Efficiency Standards. In most cases it will not be necessary to control humidity and/or dew point in order to stay within the specified ASHRAE- recommended guidelines. If this becomes a problem, the Department of Technology can assist agencies by recommending solutions.

    Temperature and humidity in data centers and server rooms shall be measured at the information technology (IT) equipment air inlets for temperature and humidity compliance. It is recommended that supply air inlet temperatures in data centers remain in the 23 to 27 degree Celsius (C) (73 to 81 degrees Fahrenheit) range.

Class	Equipment Environmental Specifications	
	Product Operations	
	Dry-Bulb Temperature (˚C)	Humidity Range, Non-condensing
A1 to A4	18 to 27	5.5ºC Dew Point to 60% Relative Humidity and 15ºC Dew Point

2. All state data centers that exceed 1,000 square feet shall measure and report their power usage effectiveness (PUE) annually by December 31 (beginning December 31, 2014) to the Department of Technology using the Power Usage Effectiveness Report (TECH 408). For agencies whose cooling is supplied through the downtown Sacramento Central Plant, the Department of Technology can provide specific instructions for the calculations. Agencies are responsible for submitting these reports, and must base their PUE calculations on the criteria outlined in the Green Grid publication.

    Data centers that exceed a PUE of 1.5 shall reduce their PUE by a minimum of 10 percent per year until they achieve a 1.5 or lower PUE. These reductions can be achieved through energy saving measures and/or through scheduled and budgeted power and cooling supply equipment replacements. If agencies that manage data centers 1,000 square feet or larger do not have the expertise to reduce PUE, the Department of Technology can provide suggestions. The Department of General Services and local utilities also are excellent resources to suggest energy savings measures.

    (Continued)

(Continued)
REQUIREMENTS OF DATA CENTERS AND SERVER ROOMS   **1820.3** (Cont. 1)
(New 11/2014)

3. When purchasing network switches and routers, all state agencies must specify the
    Energy Efficient Ethernet IEEE (Institute of Electrical and Electronics Engineers)
    802.3-2012 Section 6 standard to the maximum extent possible. (Download a free
    copy of this IEEE standard from (the IEEE Standards Association).

4. All state agencies must consider virtualization (options when refreshing equipment
    or standing up new systems. Virtualization is the creation of a virtual rather than
    actual version of something such as an operating system a server a storage device
    or network resources. Use of the most energy efficient power supplies available
    should be included in the purchase of new IT equipment.