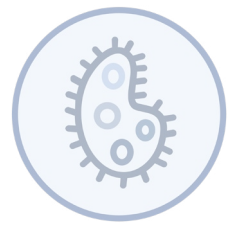


JB&B CELEBRATES NATIONAL HEALTH CARE FACILITIES AND ENGINEERING WEEK



WHERE'S THE POWER COMING FROM?

As the industry races toward a greener environment, electrification is a key driver toward energy transition and decarbonization. But replacing existing fossil-fuel-dependent technologies with ones that use electricity will require larger electrical services, correct? Not necessarily! So where's the power coming from?

No More "Off-Season"

Traditionally, the bulk of fossil fuel-based needs occurs in the winter, so carbon reduction and electrification have a significant focus on shifting the fuel source of those loads. For many buildings, this means converting a winter heating source from gas or central steam to an electrified heat source. One common way to achieve this is through the use of air-source heat pumps. The system effectively uses energy in the air to condition spaces by transferring heat between indoor and outdoor environments. On paper, these systems have a larger power requirement than their fossil fuel-burning counterparts. This means that the winter electrical usage is much higher than traditional building arrangements, but this is offset by an alternative fuel source (like natural gas) that is no longer required.

Balance Between Energy Efficiency and Electrical Demand

The integration of more energy-efficient HVAC solutions requires strategic planning to maintain electrical demand, whether on an existing-building electrical service or new. Requiring a larger electrical service may pose challenges, as it affects real estate, cost, and disruptions. Fortunately, due to the seasonality of the HVAC loads looking to be electrified, the impact should be minimal or none with respect to the main electrical service. With careful planning on equipment sizing and incorporation of electrical demand and coincidental load calculations, the overall hit on the service should not trigger the need to increase the capacity.

What About the Generator Plant?

Healthcare facilities generally have significant needs for equipment to be backed up by a generator, especially the building HVAC systems. Environmental conditions and critical exhausts are essential for preserving patient comfort and safety during an extended outage. Similar to the electrical service described above, whether a facility contains an existing plant or new, the right design can stabilize the electrical demand. For certain configurations, having an electrified heating system can actually decrease the complexity of your emergency power distribution.

Electrification of building heating systems typically does not mean drastic modifications to a building's electric system. The process of implementation of energy-recovery systems and adoption of newer technologies is an overall step in the right direction without fundamental shifts in how a building operates. Embracing innovative technologies to meet one criterion doesn't sacrifice resiliency, safety, and reliability when sustainable design prerequisites are adhered to.



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