nerej
CELEBRATING 55 YEARS

The rapid evolution of warehousing and distribution center real estate

March 25, 2009 - Spotlights

Over the past two decades, the systems and technologies used in the handling, warehousing and distribution of goods have evolved tremendously. From the ability of fork trucks to reach higher, and move with precision through narrow aisles, to scanning technologies that enable warehouse workers to instantaneously locate any item in the facility at any given point time, technology has moved the industry forward at a rapid pace.

These changes have had a noticeable impact on the facilities used for warehousing and distribution (distribution facilities). Facilities with 24' clear (low-bay) ceilings, 6" floor slabs, 40' column spacing, and conventional fire protection systems, are no longer "state of the art." In fact, many of these facilities, built as recently as the 1990s, are already functionally obsolete for today's more sophisticated users.

The reality of distribution today is that modern facilities must meet much higher standards in order to support the operational needs of today's most demanding tenants. Attracting large, sophisticated tenants requires at least 30' clear (high-bay) ceilings heights, 7" floor slabs and 52'+ column spacing. A distribution center with this profile is supportive of modern distribution processes, which seek to optimize storage capacity and through put (movement of product through the facility), while minimizing cost.

The reason for this recent evolution in facilities is logical. As companies design their facilities today, the selection of material handling equipment and the layout of that equipment is the result of in-depth planning and analysis that seeks to optimize all aspects of the operation's cost and performance. This means that most tenants will gravitate toward a solution that minimizes the cost of occupancy, labor and inventory carry, while offering performance levels that ensure products will be shipped timely and accurately. The shift to high-bay facilities has been an outcome of the technologies and processes that have been adopted by tenants to meet cost and performance goals.

In addition to the obvious benefit provided by higher ceilings in the form of additional capacity, another important benefit of many modern facilities is the early-suppression fast-response (ESFR) fire protection system. ESFR systems respond faster to fire emergencies and deliver water at higher volumes than conventional sprinkler systems.

The flexibility constraints imposed by conventional fire protection systems in high-bay environments are substantial. In a high-bay environment, conventional systems typically include "in-rack" sprinklers, which protrude downward from the ceiling, into the spaces between racks. In the event of emergency, this design enables the sprinkler to deliver water to product in the middle and lower level racks. The shortfall of in-rack sprinkler systems is that they are designed specifically for the racking layout that is in place. In-rack systems are expensive to install and not easily moved. Since

flexibility is critical to today's sophisticated users, the inability to re-configure the racking layout as products change and processes evolve is a major constraint. This constraint is avoided with ESFR systems, since their superior performance eliminates the need to have pipes protruding into racking system. Also, since ESFR systems are more effective than conventional systems at containing fire hazards, users of these systems generally pay lower fire insurance premiums. In some cases, insurers may require the use of an ESFR system. Lower insurance premiums offer recurring cost-savings to ESFR users. For the reasons described above, ESFR technology is a compelling alternative from both a flexibility and cost savings standpoint.

Given the rapid evolution of distribution technology and the facility characteristics needed to support this modern technology (higher clear heights, ESFR, etc.), one might guess that demand for high-bay, modern distribution center space has increased and demand for low-bay space has declined. We have, in fact, seen a pronounced trend in the statistics as tenants exit low-bay space for high-bay space. Recent research from Richards Barry Joyce & Partners, LLC, a Boston-based real estate advisory firm, shows the following statistics from the Boston's I-495 South industrial submarket:

* Vacancy in high-bay properties is 14%, versus 21.5% for low-bay properties
* 72% of the vacancy in the submarket is in low-bay space
* In the last four years, tenants have absorbed 1.5 million s/f of high-bay inventory, while absorption in low-bay properties has been negative 191,000 s/f

Despite the current economic uncertainty, the drivers that accelerated the shift to high-bay distribution center facilities remain intact. In order to compete in a global economy, users of distribution facilities must continue to drive costs out of the distribution network. Best practice technologies in racking, materials handling equipment and warehouse management systems will continue to evolve, keeping modern distribution facilities in high demand.

Michael McCarthy is business development, Condyne, LLC, Quincy, Mass.