



“ICE” Interior Cellular Enhancement

The Case for installing an “ICE” Distributed Antenna System in 2016

As we move well into the second decade of the 21st century, it is clear that wireless communications are not just a modern convenience or trendy gadget, but rather an integral part of the way we live, work and interact. Wireless service is as critical to modern society as other basic services such as electricity, natural gas, water and wired telephone service (perhaps now even more so than wired telephone service). In the 1870s, Alexander Graham Bell had a vision of bringing telephone service to every home and business in America. He recognized that such an elaborate system of wires connecting the country and eventually the planet was “impracticable at the present moment” but that such a “grand system” would eventually be realized. Though Bell was correct, he faced much opposition for infrastructure investment. That same skepticism and adversity plagued the early pioneers of electricity distribution, such as Thomas Edison. But with time and investment in infrastructure (both private and public), electricity and phone service have become utilities without which no individual or business in America could live or work.

Without question, the “utility” of the 21st century is wireless communications service. Just as the telephone began as a luxury and quickly became a necessary utility, in the near future all Americans will view wireless communication services as a necessary utility. For office buildings, corporate campuses, retail centers and industrial facilities --- the best way for an owner or operator to provide this utility is to install an “ICE” DAS network.

What is “ICE” (and DAS)?

“ICE” is an acronym for **Interior Cellular Enhancement** and **DAS** is an acronym for **distributed antenna system**. An “ICE” system is a group of small antennas working together to send amplified cellular signals to improve coverage and reliability in areas where traditional cell towers have trouble reaching users. This type of system is perfect for any single building, large facility, or multi-unit campus. Whereas, a cell tower antenna broadcasts over a large geographic area providing sizeable coverage to a multitude of users, each antenna in the “ICE” system serves as a “mini” cell tower sending enhanced signal strength and bandwidth over a smaller interior area.

“We make nationwide communications manageable”



Why Should Property Owners Install an “ICE” System?

There are a number of reasons to have an “ICE” system installed in your building, facility or throughout your campus. Among other things, (1) having “ICE” improves the marketability of the property by increasing connectivity, (2) in-building wireless coverage is historically difficult and getting worse with LEED certified buildings as well as faster 4G and LTE signals, and (3) “ICE” improves the safety of the building’s occupants by enhancing the ability to reliably use emergency services like **911** for police and fire.

Better Connectivity Means More Business

For a retail shopping center or plaza, an “ICE” network will dramatically increase connectivity for customers. Heightened connectivity will attract consumers and, therefore, more and better retail tenants. For an office building, we expect that in the next few years no major office tenant will take occupancy of new space without an “ICE” system in place to ensure its employees will have mobile device coverage during the workday.

Providing In-Building Coverage is Difficult for Cell Towers

Up to 85% of wireless calls are made indoors, and with the growth of smart phones, the need for data availability is increasing exponentially. In contrast to a car or outdoor area, wireless coverage inside buildings is historically difficult to obtain from a traditional cell tower. Further, more and more buildings are being constructed or retrofitted to Leadership in Energy and Environmental Design (LEED) specifications, which results in the usage of certain materials such as low-emission (Low-E) glass that are less conducive to a wireless signal. As such, unless the building has an “ICE” system installed on-site, in-building wireless signal strength will be progressively weakened in the months and years to come.

Better Connectivity May be Required by Law

An in-building “ICE” system increases the safety of the building’s occupants. In cases of emergency, an “ICE” system network facilitates indoor 911 calls and is better equipped to handle the multitude of simultaneous calls that would otherwise overwhelm the available wireless coverage. It also provides first responders with improved communication. Public safety personnel such as firefighters and policemen require a reliable wireless network to communicate – whether by voice or by data content. This is especially true in critical areas such as stairwells, where unaided radio frequency signals are weakest. For these reasons, in-building amplification systems are already being required in certain municipalities.

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In 2009, two national fire codes – the **National Fire Protection Association** and the **International Fire Code** – addressed the need for an in-building system such as “ICE”. These codes are adopted in municipalities across the country. One notable example is Clark County, Nevada, which last year adopted and expanded on Appendix J of the **IFC** to require amplification systems, such as an “ICE” system, to achieve the required level of radio coverage. We expect this trend to continue and ultimately become a requirement under all municipal fire codes.

Will the Wireless Carriers Offer to Pay for Your “ICE” System?

Unfortunately, NO – unless you own an airport, a large shopping center or sports arena. Carriers have demonstrated an increased reluctance to finance the installation of any type of DAS in office buildings, retail locations and corporate campuses, as they seek to concentrate their efforts only on the most high-profile targets. The costs to install and operate the DAS networks are significant and typically cannot be justified by the wireless carriers from a return on investment perspective. As a result, although the carriers may install and operate a DAS in stadiums and airports, the costs cannot be justified for those locations where people live, work and shop daily. As a result, the major carriers will not agree to pay for your system.

Who Will Pay for the Installation, Operation and Maintenance of This?

Under the terms of most commercial leases, the tenants. Most commercial leases permit the owner to pass through the cost of operating and maintaining the building to the tenants in the form of additional rent. Despite the infinite variety of pass-through arrangements, as well as the fact that such clauses are often heavily negotiated, there are remarkably few appellate cases interpreting pass-through clauses. Commentators have attributed this to the fact that the parties, knowing they are bound to a long-term lease relationship, elect to negotiate rather than litigate. Nonetheless, with careful structuring, building owners should be able to install, operate and maintain an “ICE” system at little or no long-term costs by passing the costs onto their tenants (who are the real beneficiaries of the improved wireless service).

Many existing leases will define common area maintenance (CAM) expenses broadly enough to include any ongoing expenses of “ICE”. Under the terms of the AIR Standard Multi-Tenant Office Lease – Net (2012), “Lessee shall pay to Lessor...Lessee’s Share of all Operating Expenses.” The term “Operating Expenses” includes “all costs incurred by Lessor relating to the ownership and operation of the Project,...including, but not limited to...communication systems and other equipment used in common by, or for the benefit of lessees or occupants of the Project.” In addition, there is a catch - all provision that sweeps in the costs of maintaining “all other areas and improvements that are within the exterior boundaries of the Project but outside of the Premises.”

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Such language is broad enough to include the minimal ongoing expenses of an “ICE” system incurred by a building owner. Leases with larger landlords may be even more specific by explicitly naming the costs of maintaining and replacing “intra-building cabling and wiring” as CAM expenses.

There May be Some Limitations

Even under well-structured DAS purchase or financing arrangements, if the lease is a so called “gross” lease, there may be limitations on the pass---through nature of DAS expenses. In some gross leases, the tenant may have negotiated a provision where new categories of expenses that arise in subsequent years are added to the base year rather than treated as an increase over the base year (the argument being that increases are designed only to account for inflationary increases).

This may prevent the landlord from passing through DAS costs without first obtaining tenant approvals. There may also be certain exclusions and limitations that need to be carefully considered. Many of these limitations, however, will not apply if the DAS transaction can be structured such that the costs are classified as a “utility” charge.

Are “ICE” Costs Defined as a “Utility” Charge?

We believe they can be, under certain structures. If the DAS infrastructure is paid for by the DAS provider, and the wireless communication service is sold back to the building as a “utility,” we believe substantially all commercial leases would cover this charge as a tenant utility expense. Utilities are sometimes handled under separate sections in the lease but are nonetheless treated as pass--- through expenses. In order to appropriately structure the transaction, the DAS provider would ideally be a licensed competitive local exchange carriers (CLECs) with the transaction structured as a utility easement in gross, coupled with a “utility service agreement” provided by the CLEC for a fixed term (with optional renewals). Under this arrangement, the costs of installation, maintenance and provision of the system can be paid over a period of years to deliver the DAS provider its required return on investment and the property owner its desired in--- building DAS as a current “utility” charge.

Not only does this structure further reinforce the pass---through nature of the expense by characterizing it as an ongoing operational expense, but also it better tracks the real characterization of wireless communication service – as a utility.

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Will Tenants Object?

We don't think so. Tenants are unlikely to object to the increase in pass-through charges because (1) such increases are likely to be very marginal and (2) they are the direct beneficiaries of the improved amplified signal coverage and (3) they can easily justify the slight increase when reviewing the ROI numbers.

Don't Go It Alone

Installing an "ICE" DAS system is a highly technical and labor intensive project that includes engineering RF signal propagation for various generations of cellular voice and data technologies. Hiring an experienced professional makes good sense and will surely save on overall costs in the long run.

Berk-Tel Communications, Inc. has been installing "ICE" systems since the technology was new nearly a decade ago. Berk-Tel Communications has installed "ICE" to provide interior enhanced cellular coverage for more than **100,000,000** square feet all across the United States in office buildings and commercial properties, warehouses and manufacturing sites, hospitals and clinics, apartments and hotels, college and corporate campuses, retail - grocery - big box stores, etc. etc. etc.

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