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Highest and Best Use of Power Plants

3.1.06 *[Lance Dore](), Managing Director, Cushman & Wakefield*

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The utility industry is not immune to the forces of the real estate market. The going-concern (value in use) of a typical power plant includes the enterprise value, machinery and equipment, personal property and real estate. We have been conditioned either by acceptance or ignorance to equate cost with value and while the forces of consumer demand, heat loads and fuel prices provide the basis for the discounted cashflow modeling, the overlooked and sometimes underappreciated aspect of the various components of the going concern value for a power plant is the real estate.

As we have seen in all segments of the national real estate markets; buyers, sellers, lenders, and the full scope of participants are making the investment decisions anticipating or assuming one fundamental conclusion in the valuation of a power plant - that the location of the project, cashflows, or simply the path of least resistance requires that the highest and best use conclusion be an operating power plant. This is most often the case because the needs for power are directly related to the growing population and continued development of our national infrastructure.

However, in today's market where the globalization of real estate has levelized the playing arena and market participants seek opportunity for investment with the click of a mouse, real estate assets of all types are being considered for reuse, remodeling, or redo. This has become more and more evident in the power industry, which begs us to consider this: "What is the highest and best use of a power plant?"

In the past the power industry was highly regulated and was not necessarily subject to the forces of the market (supply and demand). Increases in costs were passed through to the consumer with rates of return dictated by power purchase agreements. This structure has dramatically changed as deregulation has forced power companies to revise their portfolios. M & A activity has been on the rise as the many participants revise existing portfolios to reflect economies of scale within the industry (i.e. coal v. natural gas), or geography to maximize distribution systems and labor (i.e. northwest v. south).

There are many issues facing the power plant industry, but the leading culprits highlighting these changes are as follows:

- Older technology in existing plants is less able to compete with newer facilities;
- Rising fuel costs are lowering overall returns forcing operators to "triage" existing facilities;
- Misallocated Assets;
- Political and environmental regulations.

Older technology in existing plants typically has lower heat rates and therefore more expense and less income. This is compounded by rising fuel costs which are not expected to change dramatically. This further lowers the net income. This is forcing operators to keep their most efficient plants on-line, or convert base load to peaker as needs dictate. This creates internal inefficiency while trying to prioritize the need to keep existing plants. The outcome of keeping inefficient power plants on-line is often a mismatch in the power grid. This creates markets with loads that are over-served and markets that are under-served. This is exacerbated by continued political and environmental shifts that regulate, re-regulate and dictate technology, permits and desires (i.e. nuclear) for existing needs and future wants.

In typical real estate markets (office, retail, apartment, industrial) the ability to adjust to market demands reflects a time-line of 6 to 24 months. This allows developers and investors to alter plans, downsize, or upsize within a reasonable time period at appropriate risk levels. However, the time-line to revise a proposed power plant or existing power plant can range from 24 to 60 months. This time lag does not allow an operator to make “typical” market decisions and creates, as stated earlier, the path of least resistance, or “no change is good change.” As such, the inefficient markets continue.

Overall, these factors within the power industry have forced many of the operators, either consciously or unconsciously, to consider the highest and best use of their power plants.

Several questions must be asked when considering the highest and best use of an existing power plant in a deregulated industry. The decision matrix falls into three primary categories with the final result being a clear path to profitability.

First, analyze the legal uses of the plant considering general plan, zoning, specific plan, permitting, environmental overlays and public interests. This will provide the backbone for development options. It is often the case that when considering these various options a wide variety of uses are revealed that allow for creative development scenarios. Examples include converting portions of existing power plants to industrial development and using excess power via co-generation facility (possibly combined cycle) for use by the industrial tenants. This creates a high degree of synergy between the related uses and ultimately a higher value for the entire project.

Second, analyze the physical attributes of the plant considering the high amenity aspects that are often overlooked for many power plant operators. The bias within the power industry is that power plants are industrial facilities with little or no physically desirable location attributes. However, one of the more common cooling requirements for power plants is water. A great many power plants are located on some of the most valuable water fronts in the United States. Historically, this was a function of need and available land. Original power plants were developed on the “outskirts” of town and along waterways or coasts. Over time, these locations were absorbed by growth and hundreds of existing power plants today are on the banks and coasts of prime real estate. The other high amenity aspect to consider is not only the location, but the architecture of the existing plant. Many older facilities have detailed architecture, historical designations, and views that are highly desirable for conversion to residential lofts, industrial lofts, office, retail, artesian communities, public venues (schools, museums, civic forums) and mixed use projects. Because most power plants are essentially large shells wrapped around machinery and equipment, it is easy to adapt the core space. These examples primarily assume a complete adaptive reuse; however complimentary uses can be developed similar to those previously referenced.

Thirdly, analyze all the financial aspects of the project. This analysis can be particularly interesting when the going concern value (value in use) is compared to the alternative development scenarios of the existing and adaptive reuse scenarios that include the value of the real estate (value in exchange). Earlier, a statement was made that the industry often presupposes that cost equals value, and with newer projects this is most often the case. However, as facilities become older and less efficient discounted cashflows are used to test the reliability of cost assumptions and often support the off-set for functional obsolescence. In many cases the going-concern value reflected in the discounted cashflow, when compared to the adaptive real estate development scenarios, will be the lower value. Factored into the adaptive development scenarios are the costs for decommissioning and permitting for development. It is also the case for high profile projects with urban, waterway, or coastal location that the underlying land value itself will exceed the project value. The final conclusion will therefore be for reuse, remodel, or redo of the facility to maximize the value of the existing project which ultimately will provide a greater return. The ultimate decision will be a detailed cost-benefit analysis comparing the various aspects of the highest and best use analysis.

After a thorough analysis is completed the power plant can be positioned to meet the market demands within the real estate sector (value in use v. value in exchange). The same analysis can be completed for a proposed facility.

Some brief examples of the results of highest and best use analysis for existing power plants are shown.

Downtown San Diego: Electra – This was the conversion of a steam power plant into a 34-story, 625 room hotel with condominiums and commercial retail space. The project was originally two buildings that housed boilers and turbines for the San Diego Electrical Railway Company. The architectural façade was incorporated into the project development based on its historical significance as an example of Neo Classical and Art Deco design. The new project will be known as Electra.

London, England: Tate Modern Museum – This was the conversion of the Bankside Power Station located along the River Thames. It was converted into the Tate Modern Museum after it could no longer compete as a power plant. The conversion retained much of original brick-clad steel structure architecture in over 370,000 square feet.

Alamosa, Colorado: Redevelopment – This plant was constructed in 1911 by the Mutual Power and Light Company (later Public Service.) The utility built a coal-fired power plant adjacent to the Denver and Rio Grande rail line supplying the coal to the plant. The plant was decommissioned in 1979 and closed in 1981. The proposal is to transform the two brick buildings and an almost five-story high metal covered structure into potential loft apartments and offices.

Austin, Texas: Seaholm Power Plant – This plant was built between 1950 and 1958. It was composed of five gas/oil generation units (100 megawatts). The building features a towering turbine room with 65-foot-high ceilings. The building has more than 110,000 square feet of useable floor area. The master plan recommends reuse into future visitor parking for Seaholm, an intermodal transportation network with possible light rail and intercity rail connections, and other civic uses including museums and cultural centers.

Overall, power plants, just as any real estate project, must adhere to market forces considering the fundamentals of supply and demand, project utility and return on and of investment dollars. The changes in the power industry markets have altered the traditional and often deeply engrained perceptions of power plant value (value in use) to consider alternative, or complimentary development scenarios (value in exchange) within existing power projects to maximize returns and investment value.