

**REAL ESTATE****GENERATION STATION VALUATION, OVERCOMING THE COST APPROACH – IT REMAINS THE ISSUE!**

by Mark D. Lansing

Regardless of the State or the property being valued (personal or real) at an electric generation plant, the cost approach remains the predominant measure of value. Yet, the de-regulated marketplace eschewed that approach. Whether by an assessor, administrative body or State judicial or administrative tax appeal board (“courts”), the cost approach remains the dominating valuation approach. Why? According to cases, the electricity market is volatile, which makes projections difficult and, thereby, likewise, the application of the income approach. Conversely, the cost approach is seen as “less difficult” and volatile (meaning, of course, the assessor and court are not applying it fully). Practically, the result is that the standard of proof for electric generation plant assessment challenges remains higher than that applied to general commercial or residential properties. Coincidentally, the reduction in value for generation station also tends to have the greatest impact on a taxing jurisdiction’s tax base. Simply, and notwithstanding the de-regulated nature of the market (including its voluminous sales of generating assets), the archaic and maximum value seeking cost approach remains the predominant mode of valuation, resulting in many generation plants being over assessed.

**The Marketplace for Generation Assets**

When a market exists for property, the valuation must be by the manner applied in the market. Whether a “market” exists is a question of fact (not law). A “market” can be defined in two manners: (1) a market for the sale (both new and used) of the property (*e.g.*, the sale of generation assets) or (2) a “market” with respect to the direct or intrinsic income generation of the real property (electricity prices, capacity prices, etc.). If no market exists, the property tends to be labeled “specialty property”; whereupon, the cost approach is normally applied.

Following the Federal Energy Regulatory Commission’s Orders 888 and 889, numerous States embarked on unbundling and de-regulating electric generation assets. As part of that process, utility companies either totally or partially departed the wholesale electric generation market, by divesting their generation assets or spinning them off into deregulated independent power producers. In addition, regional transmission organizations (*e.g.*, PJM, MISO, NYISO) developed, maturing the market for the sale of electricity (and other energy commodities).

**Valuation of Generation Assets Should be by the Income Approach**

In valuing properties, most States agree that a recent sale of the subject property between a seller that was under no compulsion to sell and a buyer that was under no compulsion to buy is the best indicator of value. That purchase price is often determined by an income

approach. Virtually never has a purchase price resulted from applying the cost approach. Today, almost two decades after de-regulation commenced, it is accepted that a market exists for electric generation plants. Thus, one would assume that the preferred valuation approach has become one other than the cost approach. In particular, since market participants solely apply the income valuation approach to determine value. Assessors and courts, though, remain loathe to apply the income approach, finding it cumbersome. That is, unlike, general commercial properties (where the income approach takes comparable market lease income, deducts market operating expenses (that tend to be stable and predictable) and, then, applies a capitalization rate applicable for the area or region in which the property is located, the income approach for a generation station involves the discounted cash flow (“DCF”) methodology. That means for each year of the discounted cash flow a projection of the three forms of revenues attributable to tangible property is made, followed by the deduction for projected operating expenses, and the application of a discount rate (taking into account an effective property tax rate) to present value the annual cash flow to the valuation date. With the increased presence of wind and solar, and their volatile generation, market electricity price projections are more complex but, generally, lower. Regardless, market participants apply the DCF to determine a generation plant’s value.

Before applying the income approach, the initial inquiry is whether the ingredients of an income approach are sufficiently (as opposed to speculatively) in place. Also, the appraiser must recognize that the income approach values the business enterprise, as opposed to just the tangible property, requiring the appraiser to deduct the value of any intangible property (*e.g.*, working capital), and to allocate the remaining tangible property value between the real and personal property.

The underlying issue is market value. As the marketplace values electric generation plants by the income approach (applying the DCF methodology), the valuation of generation plants for assessment purposes must be likewise. Even if applying the cost approach, the assessor must account for all three forms of depreciation – physical, functional and economic (not just physical). Functional and economic obsolescence necessarily consider the market forces and their implications on value; thereby, inherently addressing and incorporating the market’s volatility (in particular, for determining economic obsolescence). Unfortunately the cost approach is often applied to avoid the full impact of depreciation from all causes. Thus, for example, starting an appraisal with the cost to reproduce or replace a coal facility, when no new coal stations are being built, purposely inflates the valuation conclusion. The legitimate starting point is the lower capital cost of a replacement facility that produces the same output (which eliminates the need for quantifying excess construction cost obsolescence).

Overall, then, as natural gas prices declined and remained significantly below former historical levels after 2008, due to hydrofracking and the resultant surplus of natural gas in the marketplace, coal based generation declined in the United States from over sixty percent to

under thirty-five percent of all forms of electric generation. In contrast, natural gas plant generation (mainly, combined cycle gas turbines) supplanted coal generation as the major producer of electricity. The result has been sustained lower electricity prices in the wholesale marketplace over that decade (CCGTs plants produced electricity more efficiently and less costly than coal plants). Projections of natural gas prices for the foreseeable future remain at the sustained lower level that has existed in the market since 2011. Combine lower electricity prices with a general surplus of electric generation in the major deregulated markets (e.g., NYISO, PJM, ISO-NE, MISO and ERCOT), and the value of nuclear, coal and CCGTs has declined over that same decade period. Yet, assessments, generally, remained the same or did not appreciably decline. As such, generation property (in particular, coal and nuclear), generally, remain over assessed, contributing to their growing unprofitability and financial hardship of operation.

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