

# NATIONAL CONFERENCE OF UNIT VALUE STATES

## *UNIT VALUATION STANDARDS*

*(revised October, 2005)*

### **PREAMBLE**

The objective of these standards is to provide a systematic means by which member states can improve and standardize the operation of their offices. The standards presented herein are advisory in nature and the use of, or compliance with, such standards is purely voluntary. If any portion of these standards is found to be in conflict with the Uniform Standards of Professional Appraisal Practice (USPAP) or state laws, USPAP and state laws shall govern.

### **I. UNIT VALUATION**

A. A unit value appraisal considers the three basic approaches to value:

1. Cost
2. Income
3. Market (Sales Comparison or Stock and Debt)

B. Under the unit concept, the market value of the unit includes the synergistic value of all properties which comprise the unit. This includes all assets owned, used, and/or leased by a firm and needed in the operation of its business.

C. The unit rule, as applied to the valuation of public utilities, telecommunication networks, railroads, and other transportation systems, is a method under which the value of the property within a particular jurisdiction is based upon a fair share of the value of an operating enterprise, of which the property is an integral part.

D. The appraiser's initial responsibility is to define the unit. In defining the unit, an appraiser should consider the following criteria:

1. The nature of the properties to be appraised.
2. The manner in which the properties are used.
3. The permissible and most probable use of the properties.
4. The ownership and control of the properties.
5. A probable grouping of assets that would be sold as a unit.
6. The appraiser is satisfied that the unit is operated to economically maximize profits and is not managed to forgo profitability for the benefit of a parent or affiliate.

7. The availability of auditable financial statements prepared in the normal course of business (i.e., income statements and balance sheets). Preference should be given to units with audited financial statements as opposed to units with un-audited financial statements.

E. The unit value concept is superior to fractional or summation appraisals for valuing public utility/public service property because it properly captures "going concern value."

F. Going Concern - Intangibles:

1. The unit value concept values the business as a going concern which includes tangible assets and may include intangible assets.

2. "The value of the going-concern value includes an intangible enhancement of the value of the operating business enterprise, which is produced by the assemblage of the land, buildings, labor, equipment, and the marketing operation. This assemblage creates an economically viable business that is expected to continue. The value of the going-concern refers to the total value of the property, including both the real property and the intangible personal property attributed to business enterprise value." *The Appraisal of Real Estate*, 12th ed. (Chicago: Appraisal Institute, 2001), 27

3. Intangibles:

a. There are three generally accepted types of intangibles:

(1) specific identifiable intangibles (such as cash and accounts receivable, etc.);

(2) intangibles that represent intellectual property rights and influence the value of tangible assets (software, contracts, patents, copyrights, etc.)

(3) intangibles (such as location, assemblage, franchise, goodwill, etc.) that are not separate or divisible from their influence on the value of underlying tangible assets.

b. Unitary valuation practices would dictate that no class of intangibles identified above should be removed from unitary appraisals.

c. Intangibles, as described in I.F.3.a.(3) above, have no separate, distinguishable, market value apart from the tangible assets that they adhere to.

G. Regulation: Government regulation does impact the value of a rate base regulated company; however, it does not determine the value of such a company. Government regulation does not invalidate any of the three basic approaches to determining value because the market value of any company is determined by investors, not by regulators.

H. Leased Property: The unit value appraisal should measure the value of the assets owned, used, and/or leased by the public service firm. The appraiser is required to include as part of the unit the value for property held under operating leases that captures the full bundle of rights inherent in the property. This includes both the leased fee (lessor) and the leasehold (lessee) interests.

I. The difference between historical cost less depreciation (HCLD) and income indicators of value does not inherently reflect obsolescence in the unit value appraisal.

J. Exempt property statutes are a matter of local law and regulation. Therefore, adjustments for exempt property should be made to the allocated state value and not to the unit value.

## **II. COST APPROACH**

A. When using the cost approach as an indicator of value, the following costs may be used:

1. Original or Historical Cost
2. Reproduction Cost
3. Replacement Cost

B. Rate base for regulated utilities is not synonymous with net book or cost for appraisal purposes.

C. For a non-rate base regulated company, historical cost less depreciation is usually the least meaningful business value indicator (absent of recent write-offs, write downs or recent construction of an entire system).

D. The historical cost less depreciation indicator should not be reduced by a company's deferred federal income tax reserve.

E. Depreciation:

1. Market depreciation includes loss in value from physical, functional, and economic causes.
2. Book depreciation is an accounting method used to match (amortize) expended costs of depreciable property against revenue.
3. The economic life and the depreciation method that should be used in a cost indicator are reflections of the market's perceptions of the total life, the remaining life, and the difference in value between new and existing property.
4. As a property ages, any resemblance between book depreciation and market depreciation is mostly coincidental.

F. Leased Property: A depreciated cost should be added for property held under an operating/non-capitalized lease.

### **III. INCOME APPROACH**

#### A. Direct and Yield Capitalization

1. Direct capitalization and yield capitalization are both acceptable methods and should produce similar results if applied properly.
2. A direct capitalization rate expresses the relationship between a single year's income and price (value). ( $I/P = R$ )
3. Direct capitalization differs fundamentally from yield capitalization in a way it is applied:
  - a. In direct capitalization, a single year's income is converted into market value by a direct capitalization rate.
  - b. In yield capitalization, cash flows for several years in the future, including proceeds upon sale, are converted into market value at the yield (discount) rate required by the market.
4. A yield rate is "a measure of investment return that is applied to a series of incomes to obtain the present value of each; examples are the interest rate, the discount rate, the internal rate of return (IRR), and the equity yield rate (YE)." \*From the definition of yield rate in The Dictionary of Real Estate Appraisal, 3rd ed. (Chicago; Appraisal Institute, 1993).
5. A yield rate, a discount rate, and the opportunity cost of capital are all synonymous terms. However, they are different from a direct capitalization rate.
6. It is improper to use a yield rate in a direct capitalization formula.

#### B. Capitalization Rates and Capital Structure:

1. The components of a capitalization rate are:
  - a. Equity rate
  - b. Preferred rate
  - c. Debt rate
2. The methods used to derive each of the components of direct capitalization include:
  - a. Equity rate - derived by an analysis of earning/price ratios from the stock market or from an analysis of the income and price from sales of public utility or railroad properties.
  - b. Preferred rate - expresses the relationship of dividends divided by the market value of preferred stock.

- c. Debt rate - expresses the relationship of interest divided by the market value of debt.
3. The equity portion of a direct capitalization rate is not a cost of capital, but rather a relationship between earnings and prices observed in the market place. This rate is commonly known as the earnings/price ratio.
4. The methods used to derive each of the components of yield capitalization include:
- a. An "equity rate" may be determined by the following:
    - (1) Dividend Growth Model (discount cash flow)
    - (2) Capital Asset Pricing Model
    - (3) Risk Premium Model
  - b. A "preferred rate" is the annual dividends divided by the market value of the preferred stock.
  - c. The "debt rate" is determined by analysis of yield to maturity.
5. A discount rate, overall capitalization rate, and/or the components of these rates (equity rate, preferred rate, debt rate) may be derived from an analysis of comparable companies. The standard for determining comparability is not "perfect" comparability, but rather "reasonably similar." It is based upon as objective and comparable data as possible, but experience and judgment must be used in drawing conclusions from the data. When determining comparability, the appraiser may analyze:
- a. Industry Class
  - b. Risk
  - c. Growth
  - d. Profitability
  - e. Size or physical characteristics
  - f. Other characteristics
6. When deriving the equity portion of an industry capitalization rate, the comparables used should be sufficient in number as to be representative of that industry.
7. A capital structure is made up of equity and debt percentages (ratios). The percentages are calculated using market or book values relative to total capital.

8. To calculate an overall rate, the percentages of equity and debt are multiplied by their respective rate, as described in III.B.2 and 4, resulting in a weighted rate for each part of the capital structure. The sum of these weighted rates is the overall rate.

C. Income - Income Streams:

1. An appraiser may consider the following techniques to forecast future income: straight or weighted historical averages, percentage change, performance ratios, regression analysis, analyst forecasts, last year's income, company forecasts, and/or other generally accepted techniques.
2. Historical income should be adjusted to remove the effects of extraordinary income or expenses that will not be incurred in subsequent years.
3. Properties that generate income streams resulting in a return on net book greater than the required market rate will produce a value estimate in excess of net book.
4. The conversion of income to an indicated value for a public utility requires the appraiser to determine the quality, quantity, shape, and durability of the income stream and select the appropriate technique for conversion to value.

D. Leased Property: The full market value of non-capitalized leases is not reflected in an income capitalization approach unless adjustments have been made to the income stream.

#### **IV. MARKET APPROACH**

A. The market approach may include an analysis of:

1. Stock and debt transfers
2. Mergers and acquisitions
3. Actual sales

B. Sales analysis (e.g., analysis of mergers and acquisitions) is a valid technique for the appraisal of public utilities and railroads.

C. Stock and debt indicators are determined by the application of the general financial appraisal principle that the market value of the debt and equity interests of the enterprise is equal to the market value of the assets presented on the balance sheet. Stock and debt indicators determine the value of a company's assets by appraising the value of the shareholder's equity and liabilities of the company, such as current liabilities, long-term debt, reserves, and deferred credits. Appropriate reductions shall be made for non-operating property of the company. The appraiser may consider the following ratios to eliminate non-operating properties:

1. Non-operating net book value to total net book value.

2. Non-operating original cost to total original cost.
3. Non-operating income to total income.
4. Non-operating market value to total market value.

D. Leased Property: The market value of the lessor's interest in the property financed with operating/non-capitalized leases must be added in the market approach to make it consistent with the other approaches.

## **V. RECONCILIATION**

A. Reconciliation is not a mechanical process that applies arbitrary weights to the three approaches to value, but is a process by which an appraiser considers all factors and conditions pertinent to each approach to value.

B. The lowest point in the value range would be salvage or net liquidation value.

## **VI. ALLOCATION AND APPORTIONMENT**

A. Allocation is the distribution of a portion of the unit market value directly to a state or directly to a local taxing jurisdiction.

B. Apportionment is the distribution of a portion of the state's allocated unit value to a local taxing jurisdiction.

C. Allocation of a unit value is a process of distributing the unit value and not an estimate of market value.

D. For the allocation and/or apportionment process, one or more of the following factors may be used:

1. Cost
2. Income
3. Use

E. When determining proper allocation factors (formula) for a company or industry, the following criteria should be considered:

1. The factors should fairly distribute value among the states.
2. The aggregate of all allocation percentages should total 100%.
3. The factors should be simple in application and not burdensome.
4. The factors should be based on readily available data.

5. The factors themselves should not be an allocation.

F. In the allocation process of interstate transportation property (barges, trucks, bus-lines, airplanes, railroad cars, and locomotives) time, mileage, and/or income produced in a state are useful factors and should be considered if they can be measured.

G. When excluding exempt or locally assessed property from the unit, the following should be considered:

1. The exclusion should occur only after the unit value is determined.
2. The exclusion should be based upon the property's contribution to the unit.
3. A separate market value appraisal of an excluded property is not synonymous with that property's contribution to the unit.

### **AUDITING.**

A. All states are encouraged to develop an auditing program of state assessed property consistent with state law.

1. The states should provide sufficient training for their auditors so that the auditor can fulfill his/her assignment with a high level of professionalism.
2. National or multi-state organizations such as NCUVS, WSATA, and MSATA should be encouraged to develop audit-training programs for their members.

B. Audits of state assessed property have a three-fold purpose:

1. To ensure compliance with state law and reporting requirements.
2. To assist the taxpayer to better understand the state's reporting requirements.
3. To assist the appraiser in gaining a better understanding of the company to improve future appraisals.

C. One or more appraisers who do state assessment should be part of an audit team in order to fully comply with standard VII.B.

D. The state's audit team generally should focus on items in the state's reporting requirements that are not already audited by outside parties. For example, there should be little need to audit the financial statements published in a company's SEC form 10-K. However, the audit team should investigate the nature and composition of any line item in an audited report that it does not understand.

E. The audit team should interview company personnel and management directly involved in the development and maintenance of the accounting systems in order to assure themselves of the accounting systems reliability and integrity.



## **VIII. GENERAL INFORMATION**

### A. Suggested readings:

1. **The Appraisal of Real Estate** text published by the Appraisal Institute.
2. **Appraisal Terminology Handbook**, (Revised Edition) published by AIREA and the Society of Real Estate Appraisers (SREA).
3. **Property Appraisal and Assessment Administration** published by the International Association of Assessing Officers (IAAO).
4. **Investment Analysis & Portfolio Management** by Frank Reilly, Notre Dame.
5. **Principles of Corporate Finance** by Brealy and Meyers.
6. **Handy-Whitman Index of Public Utility Construction Costs** published by Whitman, Requardt & Associates, 801 South Caroline Street, Baltimore, Maryland 21231.
7. **Marshall Valuation Service** published by Marshall and Swift, 1617 Beverly Boulevard, PO Box 26307, Los Angeles, California 90026-0307.
8. **Boeckh Building Valuation Manual** published by Boeckh Publications, A Division of America Appraisal Associates, Inc., 525 East Michigan Street, Milwaukee, Wisconsin 53201.
9. **Public Utility Common Stock** published by C. A. Turner and Associates, Inc. PO Box F, Bloomington, Illinois 60108.
10. **Appraisal Handbook, Valuation of Utility & Railroad Property** published by the Western States Association of Tax Administrators, Committee on Centrally Assessed Property (WSATA).
11. **Investment Analysis**, by Bodie, Kaine, and Marcus.
12. **Corporate Finance** by Ross and Westerfiel.
13. **Valuation of Property, Vol. I and II**, by James C. Bonbright.
14. **Corporate Valuation: Tools for Effective Appraisal and Decision Making**, by Bradford Cornell.
15. **Public Utilities**, by Martin T. Farris and Roy J. Sampson.
16. **Valuation of Railroad and Utility Property**, by Arlo Woolery, CAE.

### B. Suggested Courses:

1. Western States Association of Tax Administrators and Utah State University:
  - a. Course 100 - Principles of Unitary Appraisal
  - b. Course 101 - Special Topics Workshop
  - c. Course 200 - Principles of Property Tax Auditing