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INTRODUCTION TO DEPRECIATION

For Public Utilities and Other Industries



Edison Electric
Institute

Power by Association™

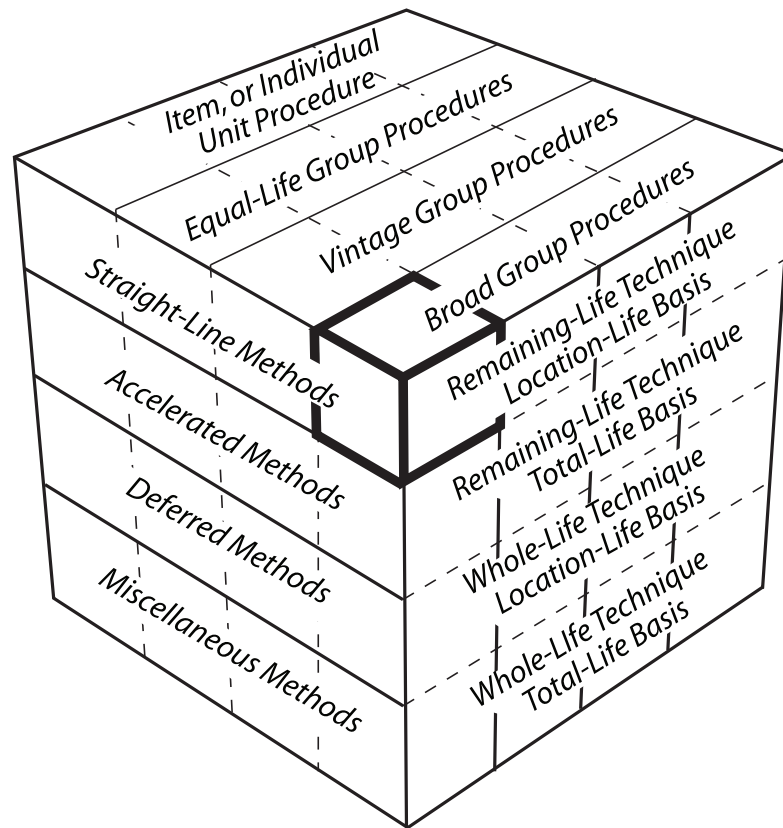


American Gas Association

April 2013

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PREFACE

What is depreciation? This question seems easy enough to answer. Many of the readers of this book have taken an accounting class where depreciation was explained as a fairly straight forward concept. The reader might have heard depreciation defined as the process of allocating the cost of a plant asset to expense over its service (useful) life in a rational and systematic manner. An accounting class then might have gone on to explain that the allocation of cost is designed to provide for the proper matching of expense with revenues in accordance with the matching principle. But what does this mean, and what is the relevance for a public utility and other capital intensive industries? Why all the debate and enthusiasm over depreciation for these companies? This interest in depreciation is mainly due to their capital intensive nature and the resultant large impact fixed assets and depreciation have on the annual operating cost of a utility. This significant impact is of interest to many different groups including management, the investment community, regulators, and customers. Public utilities and their regulators and customers may have different estimates of depreciation, as well as other items contributing to the cost of providing service. The analysts representing the public utility need to determine, through their depreciation study, the validity and appropriateness of their estimates. Likewise, the analysts representing regulators and customers need to have expertise to evaluate the reasonableness of these estimates.

What is the average life of electric transmission towers? How long do meters last? What is the average service life of gas distribution mains? What is the annual depreciation rate of our distribution poles? How much has a 20-inch gas transmission main which was installed 25 years ago depreciated? What happens to the life of assets when a new technology renders the current technology obsolete? These are common questions that arise for those working with depreciation in public utilities. Similar questions may arise for those in other capital-intensive industries such as the steel, glass, paint, and petrochemical as well as other businesses who invest heavily in plant and equipment in relation to annual revenues. This text will be referring to public utilities, but the information contained here is relevant to any capital intensive company.

In an accounting class, a simple formula to calculate depreciation is often given as $(\text{original cost less salvage value})/\text{useful life} = \text{annual depreciation}$. Cost of removal, which is an important concept for public utilities, is generally not even explicitly mentioned (although it may be inferred to be part of “salvage value”). For public utilities and other capital-intensive industries, the calculation of depreciation can be quite complex. Most utilities use the group depreciation concept which bundles similar types of assets into the same group (as authorized by FERC). This group concept leads to advanced statistics and actuarial analysis to understand how long assets will live, similar to the actuarial analysis used to determine the life expectancy of people. Given the complexity of depreciation, a course of study leading to the attainment of the professional designation of certified depreciation professional (CDP) has been developed for those with an interest in mastering this topic.

Determining depreciation expense and proper depreciation accrual rates involves both data analysis and professional judgment. An understanding of the nature of fixed assets, the accounting for fixed assets, various depreciation systems, management policies, capital recovery concepts, industry trends, the operations of a company and equipment, and other subjects are all within the scope of information gathered and analyzed in order to perform a depreciation study that leads to depreciation parameters, rates, and the appropriate allocation of depreciation over asset lives. As with any forecast and estimation process, the