Section 3

SECTION 3
VALUATION METHODS

3.1 GENERAL

The objective of this analysis is to establish an opinion of the fair market value of the System TPP and IP being acquired. Fair Market Value assumes that both the buyer and the seller are aware of all relevant information and the neither party is under the compulsion to act. The method utilized herein to provide a basis for an opinion of value consists of reconciliation of three approaches consisting of:

i. the cost approach;
ii. the income approach; and
iii. the comparable sales approach.

These approaches analyze various aspects of the System, including the physical conditions of the existing System, the cash flows anticipated to be generated by the System in the future, and finally, transaction factors related to the acquisition of similar systems in the past. Even though none of these methods may be considered ideal on a stand-alone basis, since each evaluates a particular facet of the System, the consideration and relative weighting of all three provides valuable input when considering other factors and the use of judgment in determining the value of the System. The remainder of this section provides a general description of the valuation approaches utilized for the Report.

3.2 COST APPROACH

Replacement cost new less depreciation (RCNLD) is a cost approach method selected for this Report that is commonly utilized in the determination of estimated value in utilities and has been an accepted method in litigation cases involving the acquisition of utilities throughout the United States. The primary reason for this is the fact that most utilities are comprised of complex treatment, pumping, and piping networks which all have various services lives and different years of installation. In order to address these technically complex facilities, the RCNLD method has been developed.

There is a difference between the reproduction cost and replacement cost of utility assets. The reproduction cost is a duplication of exactly the same facilities. In contrast, the replacement cost is the provision of facilities that would be available today with their improved efficiencies and more effective cost utilizing the commercially available materials, equipment, etc. complete as one single project and obtaining the economy of scale thereof. The replacement cost method assumes that the most economical sequence of construction is utilized. This means that the cost

of restoration, impacts of conflicts, etc. are not included. In addition, only one (1) start up and shut down cost is included. Similarly, any premiums or overtime costs or special procurement mobilization/demobilization costs are not included other than for the single large economic construction project. The replacement cost approach excludes excess capital, which an investor would normally not pay for in the existing facilities. Rather, the approach is based upon the theory of substitution and the prevailing market concept that no investor would pay more than the cost to replace the same system with the same characteristics.

There are three (3) components to the overall depreciation taken in this approach. The first component of depreciation, and the first to be applied, is the physical depreciation of the asset. The second level is the functional obsolescence of the existing asset and is deducted from the replacement cost new less physical depreciation. The functional obsolescence is associated with the facilities themselves and is inherent to the System itself being derived from construction, configuration, operations, management, and administration. The final component in the method is for external obsolescence. External obsolescence accrues from all factors impacting the System. The impact of regulation, customer acceptance, historical rate and charge regulation or lack thereof, the ability to generate excess revenues sufficient to support the physical asset value, market conditions development conditions, and many other factors external to the system itself.

The RCNLD analysis is based upon the following assumptions:

1. All utility physical assets are designed, permitted and constructed in one continuous effort.

2. The construction activities are assumed to follow the same historical sequence as that followed in the service area. For example, water mains, gravity collection mains, force mains and manholes were assumed to be constructed before or simultaneously with the roads and driveways.

3. The engagement of general contractors, acting for the utility and under its supervision, utilizing current construction practices and procedures to replace the property in such a manner so as to achieve all efficiencies that these procedures and practices would allow.

4. The replacement unit prices from recent sources are adjusted based on the appropriate index.

5. The replacement unit prices include the costs of all labor, material, and equipment directly related to specific items.

6. The replacement cost includes the cost associated with overhead and engineering fees incurred throughout the course of the project. These costs

are presented as a percentage of the total construction costs of the replaced facilities and depreciated in the replacement cost analysis.

7. The replacement cost includes mobilization/demobilization, contract documents, and contractor risk and profit. These costs are presented as a percentage of the total construction costs of the replaced facilities and depreciated in the replacement cost analysis.

3.2.1 Depreciation Analysis

Depreciation is defined basically as the loss of value or worth of a property from all causes including those resulting from physical deterioration, functional obsolescence, and economic obsolescence. These causes and their effects are unique to each utility.

3.2.1.1 Average Service Life (ASL) Schedule

The appropriate ASL schedule for valuation of any utility should consider manufacturers' anticipated service lives, maintenance of facilities, service lives of like components and the utility system as determined by field inspections. This information was utilized to obtain the ASL for the System assets under normal service, including proper maintenance and repair. The ASLs utilized in the replacement cost approach are shown in **Section 4**.

The effects of both the level of maintenance performed on the System and the deficiencies of the System on the value of the assets are addressed later in this analysis. These effects are determined based on photos, discussion with Client staff, evaluation, and analyses of the utility assets which provide specific functions for the System. The impacts from lack of maintenance and observed deficiencies are then applied in the replacement cost analysis.

3.2.2 Cost Determination

The use of construction costs in the determination of the estimated cost-new valuation is of primary significance. These construction costs are obtained from several sources. A listing of the various sources used in the determination of costs is presented in **Section 4**.

3.2.3 Indirect Cost Components and Percentages

The cost approach includes the costs associated with overhead incurred throughout the course of construction. These costs are presented as a percentage of the total construction costs of the replaced facilities. Engineering and other costs are depreciated, as they are associated with the assets in the replacement cost analysis.

3.3 INCOME APPROACH

The income approach values a utility based on the present value of the available cash flows anticipated to be generated in the future. The theory behind this particular approach is based upon the concept of converting the anticipated financial benefits of ownership in the future to an estimate of the present value in today's environment. Depending upon the circumstances surrounding each acquisition, the income stream may be based on the net operating revenues derived from existing and future growth as well as the value of capital contributions received from new system growth in the future.

Utilizing this approach, the net income for the utility is projected over a specific timeframe and subsequently expressed in terms of its value today based upon the use of an appropriate present value or discount factor. In order to reflect future financial and operational conditions as accurately as possible, this approach relies heavily on past and present financial data such as that found in audited financial statements and financial reports. Once the projection of net income available over the specified time period is determined, a reversion value of the assets is estimated in order to recognize the value of the system as an ongoing entity beyond this projected time period. This adjustment is based on the concept that the utility does not simply cease to exist at the end of the projection period. Rather, the assets of the system will still provide a means of generating revenue. As such, the reversion, or residual, value of the assets existing at the end of the projection period is included in the present value analysis. Finally, any other adjustments which may be appropriate are made based on the circumstances surrounding the particular acquisition. Such circumstances may include, but not be limited to, adjustments for capital deficiencies that may exist at the time of acquisition, deferred maintenance items, and similar requirements.

In general, the development of the income approach will include the following steps and decisions:

1. Determine the appropriate term to use for the projection period. Based on the individual circumstances, this period may change from acquisition to acquisition. For example, the anticipated remaining useful life of the physical assets may be used if adequate information exists for this determination.

2. Review relevant past and present financial and operating data available for the utility as it exists today. This will include sources of operating and capital revenues and expenses; transfers; depreciation (if appropriate); personnel and associated costs; historical customer growth and usage patterns; known and anticipated changes in future customer statistics; and similar factors.

3. Develop a customer and usage forecast corresponding to the project period chosen based on the review of past and present actual financial data and any known or anticipated changes in the future.

4. Develop a schedule of revenues and expenses for the projection period based on the customer forecast and current financial statistics of the system while reflecting applicable adjustment thereto pursuant to the ownership assumed in the analysis. In projecting the revenues and expenses, other adjustments may be necessary based on the assumption inherent in the particular analysis.

5. Determine any appropriate capital expenditures and/or capital expenditures which may be necessary as a result of new customer growth or capital improvement needs in the future. This facet of the cash flow analysis will depend on factors such as the remaining capacity in the existing system and the assumed customer forecast. Based on such assumptions, the inclusion of capital revenues and/or capital expenditures in the present value analysis may be appropriate.

6. Determine the applicable present value discount factor to be utilized in the analysis. This factor will vary depending on the ownership assumed in the future. For example, under a public ownership scenario, the current interest rate on long-term municipal utility revenue bonds may serve as the basis for the discount rate. Alternatively, if private ownership is assumed, the utility's current average cost of capital (or that of other similar utilities) may be used.

7. Apply the present value discount factor to the anticipated cash flows for the projection period.

8. Allow consideration of the reversion value of the assets in the last year of the analysis.

9. Make any other appropriate adjustments which may be necessary.

For this particular valuation, there are factors which diminish the importance of the income approach in the determination of value, such that the weight given to this approach is zero. This is discussed in **Section 5**, but as such, this approach is not applicable for this valuation

3.4 COMPARABLE SALES APPROACH

The comparable sales approach to utility valuation assumes that knowledgeable buyers and sellers of water, wastewater and reclaimed utilities generally know the "Market" for such utility systems. The purpose of this market approach is to examine the history of water, wastewater and reclaimed utility acquisitions, and to analyze the conditions under which the systems were acquired in an effort to arrive at an implied purchase price for the subject system. Research has been conducted in order to gather a database of information regarding utility acquisitions. In order to

compare the different transactions, various financial, technical, legal, and customer service information was analyzed and adjusted. Moreover, discussions with the negotiators, buyers, and sellers are useful and informative to the analyses.

There are many factors which are involved in the determination of an acquisition price of a utility system. These factors create both similarities and differences between the transactions, which in essence, result in the formation of a well mixed market of utility sales. The comparable sales approach considers such factors and makes adjustments as necessary in order to arrive at an implied value for the subject system.

3.5 SUMMARY

In effort to formulate an opinion of value for the System assets being acquired, this Report considers three valuation approaches. The three valuation approaches include the; 1) cost approach; 2) income approach and 3) comparable sales approach. Each approach is independent and results in a separate and distinct finding. Such findings are subsequently weighted and considered together with other factors to formulate an opinion of value for the System assets being acquired. The resulting Partial Utility Appraisal is based upon the foregoing findings as well as professional experience.

Section 4

SECTION 4
COST APPROACH

4.1 GENERAL

For the purposes of this report, I have chosen the replacement cost new less depreciation as the cost approach. I have relied upon the Client, American, IEPA, and public sources for information.

4.2 VILLAGE WATER SYSTEM

The Village water supply and treatment is functionally obsolete and under USEPA consent order. For drinking water purposes only the site (separate report) and elevated storage tank have market value while the remainder have only salvage value and may represent a liability.

The replacement cost new of the functional assets is $1,856,006. The level of physical depreciation was found to be $720,562. The replacement cost new less physical depreciation (RCNLPD) was found to be $1,135,444 or $1,140,000 rounded.

See **Table 4-1** for the details of the above analysis.

This system has very little value in records and SOP's and related items due to the non-compliant and obsolete system in operation. Nonetheless, I have allocated a value for records, etc. of $10,000.

The elevated storage tank needs cathodic protection and maintenance. The site needs and environmental audit. After the above is completed, hydrant testing, water loss audit and pressure analysis would be done. The above are a few of the deficiencies and deferred maintenance observed. A market allocation of $150,000 has been estimated for this item.

Functionally, a buyer would provide for 167 residential meters and 17 commercial meters. Moreover, at least 3,095 LF of undersized water mains need replacement. Finally, approximately 30 new additional fire hydrants are required to meet rural 150 standards. The functional market depreciation is some $220,000.

The USEPA consent order represents an external depreciation of regulatory lag and the delayed recovery of the significant capital investment required to comply. This external depreciation was valued at $310,000.

The Village system represents a "live" plant versus "dead" plant, with a full complement of customers in place and connected to the system. From a practical standpoint the system represents a monopoly. The system comes with the use of the existing right of way of the Village. The above items represent the going concern. Unfortunately, the revenues are less than the existing cost of operations. The system operates at a loss. Nonetheless, the going concern value was assessed at $35,000.

The used mobile generator has a depreciated value of $2,200.

Table 4-2 presents the adjustments to the RCNLPD to arrive at the RCNLD (all three types) as the Tangible Personal Property (TPP) and the Intangible Property (IP). The result is an opinion of $502,000.