BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES
OFFICE OF ADMINISTRATIVE LAW

In the Matter of:

THE PETITION OF NEW JERSEY AMERICAN WATER COMPANY, INC. FOR APPROVAL OF INCREASED TARIFF RATES AND CHARGES FOR WATER AND SEWER SERVICE; CHANGE IN DEPRECIATION RATES; AND OTHER TARIFF MODIFICATIONS	**BPU Docket No. WR11070460** **OAL Docket No. PUC09799-2011N**

DIRECT TESTIMONY OF

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ON BEHALF OF THE
NEW JERSEY
DIVISION OF RATE COUNSEL

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Filed: January 13, 2012

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Direct Testimony
Of
Michael J. Majoros, Jr.

I. Statement of Qualifications

Q. State your name.

A. Michael J. Majoros, Jr.

Q. Who is your employer, and what is your position?

A. I am President of Snavely King Majoros & O'Connor, Inc. ("Snavely King"), located at 8100 Professional Place – Suite 306, Landover, MD 20785. For those familiar with the DC metro area, we are located at the New Carrolton Metro stop.

Q. Describe Snavely King.

A. Snavely King is an economic consulting firm, founded in 1970 to conduct research on a consulting basis into the rates, revenues, costs and economic performance of regulated firms and industries. Our clients include government agencies, businesses and individuals. We have provided our expertise in the areas of consumer cost and anti-trust matters, and in support of a clean environment and personal damages resulting from discrimination in agricultural programs. The firm has a professional staff of 11 economists, accountants, engineers and cost analysts. Most of our work involves the development, preparation and presentation of expert witness testimony before Federal and state regulatory agencies.

Q. Have you prepared a summary of your qualifications and experience?

A. Yes, my Appendices A and B provide a summary of my qualifications, experience and a tabulation of my appearances as an expert witness before state and Federal regulatory agencies.

Q. At whose request are you appearing in this proceeding?

A. I am appearing at the request of the New Jersey Division of Rate Counsel ("Rate

Counsel").

Q. What is the subject of your testimony?

A. My testimony addresses depreciation.

Q. Do you have any specific experience in the field of public utility depreciation?

A. Yes, I do. Public utility depreciation is one of my firm's areas of specialization. We have appeared as expert witnesses on this subject before the regulatory commissions of almost every state in the country as well as several Federal Commissions. I have testified in over 100 proceedings on the subject of public utility depreciation, including several appearances before the New Jersey Board of Public Utilities ("BPU" or "Board").

Q. How many times have you addressed public utility depreciation in New Jersey proceedings?

A. I have appeared in more than twenty New Jersey proceedings on the subject of public utility depreciation. These appearances addressed electric, gas, water, telephone and waste removal utilities.

II. Purpose of Testimony

Q. Explain the purpose of your testimony in this proceeding.

A. In this testimony, I review New Jersey American Water Company's ("NJAWC," or "the Company") depreciation-related testimony and exhibits. I also present my firm's independent depreciation study of NJAWC.

Q. Please summarize NJAWC's depreciation-related proposal.

A. NJAWC's Petition is for "approval of increased tariff rates and charges for water and

wastewater service, change in depreciation rates and other tariff modifications."[1] NJAWC's Case Summary states "Finally, the Company is proposing to update the net negative salvage component of depreciation rates ... The proposed rate increase is primarily driven by capital expenditures..."[2] If a rate increase is driven by capital expenditures, depreciation on the expenditures is always a major component of the increase. NJAWC's Petition adds more clarity, "The Company is proposing to update a component of its depreciation rates. The net negative salvage component is based upon data from the years 2004, 2005 and 2006. These data are being replaced with data from the years 2008, 2009 and 2010. In all other respects, the Company proposes that depreciation rates established in 2008 need no changes."[3]

Q. Does NJAWC present a witness to sponsor these proposals?

A. Yes, Mr. Frank X. Simpson sponsors NJAWC's depreciation proposals. Mr. Simpson states that NJAWC's general books and related records are kept in conformity with the Uniform System of Accounts for water companies.[4] Mr. Simpson describes NJAWC's depreciation proposal beginning at page 12 of his direct testimony. Mr. Simpson states "Base year book depreciation expense is calculated based on current uniform depreciation rates as established by the BPU. Pro forma depreciation expense is calculated on [Exhibit P-2] Schedule 48, pages 1 to 13." According to Mr. Simpson "utilized on this exhibit are depreciation rates based on the uniform system of accounts as agreed to in our last base rate case, Docket No. WR10040260. The application of these

[1] Petition Title.
[2] Case Summary, page 2.
[3] Petition, page 6.
[4] Exhibit PT-6 (Simpson Direct), page 3.

depreciation rates based on pro forma depreciable plant in service at July 31, 2012 yields pro forma depreciation expense. ... Pro forma book depreciation based on units of production depreciation has been calculated on the Delaware River Regional Water Treatment Plant, Howell Township Water Treatment Plant, and Logan Treatment Plant. Units of production have been utilized for these plants since the late 1990's and is continued in this proceeding. "[5]

Q. Were you a witness in WR10040260?

A. No.

Q. Have you read the Stipulation for WR10040260?

A. Yes.

Q. Does the Stipulation set forth any depreciation rates?

A. No.

III. NJAWC's Current Depreciation Rates

Q. When did the Board approve NJAWC's current depreciation rates?

A. NJAWC's depreciation rates were adopted in 1995 as part of the Stipulation in Docket No. WR94030059. They were essentially continued in NJAWC's Docket No. WR06030257.

Q. Please describe the depreciation-related aspects of NJAWC's Docket No. WR06030257.

A. In that case, as in this case, Rate Counsel asked me to review the Company's depreciation-related testimony and exhibits. The Company, however, did not file a new

[5] Simpson Direct, page 12.

depreciation study in the prior case, opting instead to continue using depreciation rates based on studies conducted in the early 1990s.[6] It was my opinion that those rates were stale and needed to be updated, both to reflect current operating conditions and to reflect current treatment for cost of removal in New Jersey.

Consequently, I intended to conduct a full depreciation study in Docket No. WR06030257. I submitted several data requests designed to obtain the required data and information. NJAWC however, asked Rate Counsel to limit the data responses and push the depreciation issue into Phase II of that proceeding. Rate Counsel agreed and thus limited the responses required for Phase I. In Phase II discussions, NJAWC proposed to end the proceeding. Rate Counsel reminded NJAWC that depreciation-related issues were still outstanding from Phase I. Finally, the parties agreed that the Company would conduct a depreciation study and also that my firm would conduct an independent study, for which NJAWC would pay.

The Stipulation in that Docket WR06030257 stated:

> In connection with its next base rate case, the Company will file a full depreciation study, and supporting testimony. In addition, the Company will simultaneously provide to Rate Counsel and Board Staff the same "base data" that it provides to its depreciation consultant. It is Rate Counsel's intent to also file a full depreciation study and supporting testimony in the Company's next base rate case. The parties to this Stipulation agree that the costs of Rate Counsel's depreciation study and testimony, and related costs up to $110,000 (to be borne by the Company) shall be treated the same as are other rate case expenses in the next case. In addition, it is agreed that no party will challenge recovery by the Company of its costs related to the depreciation study and testimony and related costs on the basis that the same are

[6] See response to RAR-DEP-2, Docket No. WR06030257.

redundant or unnecessary, because of Rate Counsel's depreciation study, testimony and related expenses.[7]

Q. Did you conduct the independent depreciation study ("2006 Independent Depreciation Life Study") as specified in the Stipulation?

A. Yes, we conducted the independent depreciation study and filed it in NJAWC's next rate case – Docket No. WR08010020.

Q. Did NJAWC also file a depreciation study in WR08010020?

A. Yes, NJAWC submitted a study conducted by Earl Robinson.

Q. What was the outcome of Docket No. WR08010020?

A. The parties reached a settlement agreement. Stipulation Item 15 stated:

> "15. Depreciation. The parties stipulate that the Company's current composite depreciation rate is 2.33% and the rate will remain at 2.33%. This rate reflects a return to customers of 'Non-Legal Asset Retirement Obligations' of $48,000,000 at $1,200,000 per year over a 40 (40) year period, which NJAWC will recognize as a regulatory liability. This rate further reflects a net negative net salvage utilizing the Average Net Negative Salvage Allowance method calculated over 5 years. Attached hereto as Exhibit 'A' is a schedule detailing the agreed upon depreciation rates. The depreciation rate for sewerage plant will remain unchanged. The current composite depreciation rate for sewerage plant is 2.5%.
>
> Rate Counsel and the parties further stipulate that by virtue of the proposed methodology change with respect to Non-Legal Asset Retirement obligations, the Company will be made whole for actual future cost of removal by continuing use of a 5-year average net salvage allowance approach as stipulated to in this proceeding. For example, in the event of an unforeseen retirement where prudently-incurred negative net salvage is in excess of the Non-Legal Asset Retirement Obligations balance on the Company's balance sheet, the Company would not be required to absorb a loss for the amount of net negative salvage in excess of the balance sheet balance.

[7] I/M/O New Jersey American Water Company, BPU Docket No. WR06030257, Stipulation, pp. 6-7.

> It shall be noted for purposes of this Order that the Company is accepting this adjustment for purposes of settlement only, and not because it accepts the rationale advanced by Rated Counsel in this proceeding."[8]

Q. Did the Stipulation in Docket No. WR08010020 contain any other language concerning its precedential value?

A. Yes, the Stipulation in Docket No. WR08010020 also states:

> It is specifically understood and agreed that this Stipulation represents a negotiated agreement and has been made exclusively for the purposes of this proceeding. Except as expressly provided herein, the Company, the Board Staff, and Rate Counsel shall not be deemed to have approved, agreed to, or consented to any principle or methodology underlying or supposed to underlie any agreement provided herein.[9]

Q. Does NJAWC's filing comport with the Stipulation in Docket No. WR08010020?

A. NJAWC'S depreciation request in the instant docket does not comport with the Stipulations in WR08010020. It proposes a 3-year Average Net Salvage Allowance instead of the stipulated 5-year average, and its proposed composite depreciation rate is 2.43% rather than the stipulated 2.33%.[10]

IV. Life Extension programs

Q. Identify and explain the primary parameters underlying NJAWC's current depreciation rates.

A. Asset service life is the primary parameter underlying NJAWC's current depreciation rates. In short, the depreciation rate is the reciprocal of the estimated life. It is axiomatic that the shorter the life the higher the resulting depreciation rate; conversely, the longer the life, the lower the resulting depreciation rate.

Q. Has the Company undertaken any programs, maintenance or capital investments

[8] November 14, 2008 executed Stipulation, BPU Docket No. WR08010020 pages 5 to 6.
[9] Id. Page 12.
[10] Simpson Direct, Schedule FXS-1.

designed to extend the lives of its existing plant?

The Company's petition sets forth, and Ms. Chiavari, Vice President-Engineering, New Jersey American Water Company details in her testimony, numerous plant additions that have been put in to service since the previous rate case. Several of the projects described in her testimony constitute reinvestment in existing plant. In particular, Ms. Chiavari discusses the "Water Storage Tank Reinvestment Program", which she states is a "program to extend the service life of critical distribution system assets".[11]

Q. Did you request information regarding life extension programs and studies in this case?

A. Yes, RCR-DR-124 and 127 in this docket request information from the Company regarding life extension studies and programs conducted since 2005. The Company objected to both requests, citing a previous depreciation study performed for a prior case in 2008. NJAWC's response is actually referring to my 2006 Independent Depreciation Life Study, which was filed in 2008.

Q. Does your 2006 Independent Depreciation Life Study address the effect of programs, maintenance, capital investments designed to extend lives?

A. Yes, in WR08010020, we made several observations regarding NJAWC's maintenance programs, and the effect they might have on plant lives.

Q. Are you submitting your 2006 Independent Depreciation Life Study in this Docket?

A. Yes, the current depreciation rates Mr. Simpson sponsors continue to be stale; they are more than 25-years old. Furthermore, NJAWC is improving and modernizing its plant

[11] PT-3 Chiavari, Pg. 19, line 10-11.

thus resulting in even longer lives. So, I am resubmitting my study.

Q. Is your study also stale?

A. My 2006 study is not stale. Depreciation experts normally recommend 3 to 5 year intervals between studies. My study is dated 2006 and NJAWC's proposed depreciation expense is based on December 31, 2010 balances.[12] This four-year intervening period is still within the recommended ranges

Q. Does the Company agree that its depreciation rates should be updated?

A. Yes and no. It obviously agrees that the negative net salvage allowance, which it incorporated both plant account depreciation rates and the stipulated composite rates should be updated, because that is what it is proposing. On the other hand, the Company responded to several of our date requests in this proceeding as follows:

> "The Company completed a full depreciation study in its 2008 base rate proceeding (BPU Docket No. WR08010020). No new depreciation study was performed for the purposes of this proceeding. Therefore, this Discovery Response is objected to as overly broad, not relevant and unlikely to lead to probative evidence in this proceeding."[13]

Q. How do you interpret the Company's position?

A. On the one hand, NJAWC would like to change depreciation rates, but on the other hand it does not want to base the changes on a depreciation study, presumably to deny ratepayers the benefits of using more recent and accurate depreciation rates.

V. Summary of Recommendations

Q. Pleased explain your depreciation recommendations.

A. I begin by presenting Exhibit___ (MJM-1), which is a report (the "Report") prepared by

[12] Simpson Direct, Schedule FXS-1, Table 1, page, 2.
[13] Response to the following Rate Counsel Data Requests 1, 2, 10, 12. 14. 15. 16. 17. 20, 21, 22, 23, 25, 26, 27, 28, 29, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 65, 66, 67, 68, 69, 70.

Snavely King Majoros O'Connor & Lee, Inc in conjunction with my 2006 Independent Depreciation Life Study. The Report provides the findings of our December 2007 plant tour and discovery conferences. The Report underlies many of my recommendations.

Q. Please summarize your findings and conclusions based on your depreciation study, plant tour and subsequent inquiries as included in the Report.

A. The following conclusions from the Report had a bearing on our depreciation recommendations. In addition to our two-day tour, we submitted 172 data requests in Docket No. WR08010020. These addressed topics such as NJAWC's business, operations, accounting and maintenance practices. Many of these sought to clarify areas of concern identified during the tour.

Major Structures

For the most part, the treatment and pumping facilities we visited appeared well maintained and managed. It appeared that the Company was practicing a balance of preventive and predictive maintenance at those facilities. Based on our observations and conversations with NJAWC personnel and management, we concluded there is no reason to assume major final retirements at these treatment plants; it is much more reasonable to assume continuous upgrades.

I explained that this is an important finding from a depreciation standpoint. There are two approaches to life estimation: the "life span" approach and the "projection life" approach. The life span approach, as proposed by NJAWC in Docket No. WR08010020 relies on an assumed final retirement for an entire facility; however, there are very stringent requirements for the use of the life span approach. NJAWC does not typically retire its treatment plants it rehabilitates them, thus flowing dollars in and out of the plant

accounts with no major retirements caused by final retirements. Such is the case in this proceeding, as demonstrated by the Company's Canoe Brook plans.[14] Given these facts and the fact that NJAWC does not have any final retirement plans for any of its existing treatment plants, it does not qualify for the life span method.

The alternative "projection life" approach relies on a statistical estimate of the average life of dollars flowing in an out the plant account to formulate an estimate of the average life of a new addition to the account. Based on our observations and discussions, we concluded this was a reasonable approach and reflected NJAWC's actual operating characteristics and philosophy.

Meters

Based on our observations and discussions, we concluded we should determine whether NJAWC's 10-year meter retirement policy was working or if it is only a goal. We considered what NJAWC told us in our life analysis of the Meters account and the analysis supported the company's statements.

Mains and Services

One of NJAWC's most extensive, expensive and hidden facilities is the underground water-piping network. Based on information from the Company, it appeared that NJAWC was changing its strategy for maintenance and renewal of most of its distribution mains from a combination of reactive and planned maintenance to a

[14] Response to RCR-E-39; "NJAWC evaluated numerous alternatives to the project to rebuild the Canoe Brook plant. These alternatives are summarized in Attachment RCR-E-39. Rebuilding the Canoe Brook plant was determined to be the least costly based on a life cycle cost analysis. Retaining this reservoir supply is also very important for the drought stressed Passaic Basin area of New Jersey." (Underlines added for emphasis)

"reliability-centered maintenance" ("RCM") approach. RCM has been described as a "run to failure" approach.

The selection of pipes for replacement or restoration depends primarily on *reactive* indicators such as break frequency or water quality complaints. The primary method of main line renewal is replacement. Although a selection process is used that considers many factors, NJAWC uses the number of breaks in a pipe section as the primary method to assess the pipe's physical condition. Multiple breaks indicate a weak pipe that needs replacement. Apparently, this is a common method used by utilities throughout the industry. We concluded that NJAWC's move to run to failure maintenance could result in an increase in main replacements and retirements. We considered this finding in our life recommendations for mains and services, by reducing the statistical life indications resulting from our analyses, thus predicting an acceleration of retirements.

Hydrants

The existing valve and hydrant exercising programs require an extensive commitment of operating resources to meet BPU requirements. From a depreciation standpoint, this is a major life extension program, which we have considered in the life estimate for hydrants.

Cost of Removal

Based on discussions with the Company, we determined that NJAWC was "expensing" its cost of removal for financial reporting purposes whereas it was collecting much more cost of removal money from ratepayers each year. One conclusion was that perhaps the regulated books should be conformed to financial books for this item.

Q. What are the results of your 2006 Depreciation Study?

A. Exhibit___ (MJM-2) is my 2006 Independent Depreciation Life Study. Exhibit___(MJM-3), pages 1 to 3 calculate the straight-line whole-life depreciation rates based on the lives resulting from my service life studies. As shown on pages 1 to 3 of Exhibit __(MJM-3), when applied to NJAWC's December 31, 2010 plant balances, they result in a $ 49.6 million annual depreciation accrual for water. This compares to $68.6 million in annual accruals based on the Company's current rates per Mr. Simpson.[15] My results demonstrate that NJAWC's book depreciation rates and expense are excessive and should be reduced. This includes a continuation of the $1.2 million amortization of NJAWC's $48 million regulatory liability stemming from excessive depreciation.[16] It also includes a $6.4 million net salvage allowance as requested by NJAWC in this proceeding. Based on December 31, 2010 water plant balances, we are recommending a $18.6 million decrease in annual depreciation expense, as opposed to the $1.4 million increase proposed by Mr. Simpson.[17]

Q. Does this constitute your final depreciation expense recommendation?

A. This constitutes my final depreciation rate recommendation with net salvage allowance included. It is based on December 31, 2010 water plant balances the way Mr. Simpson presented his explanation of his proposed $1.4 million increase. However, as noted in Mr. Simpson's supplemental testimony, he has applied the rates set forth in Exhibit FXS-1 to utility plant in service at 10/31/2011.[18] Therefore, in Exhibit___ (MJM-4), I have applied my recommended rates, in the same format as P-2, Schedule 48, to 10/31/2011 balances.

[15] Simpson direct, Schedule FXS-1, Table 1.
[16] 2006 Annual Report provided in response to SIR-5.
[17] Simpson did not include sewer depreciation in his explanation of the $1.4 million increase based on December 31, 2010 balances.
[18] Simpson PT-6S, Pg. 17

There will undoubtedly be additional updates and I will provide corresponding updates to my depreciation expense as required.

Q. Have you included sewer depreciation rates in your calculations?

A. Yes, I used the stipulated sewer rates as included in Exhibit___ (MJM-5).

VI. Depreciation Rate Calculations

Q. How did you calculate your recommended depreciation rates?

A. I calculated straight-line whole life depreciation rates without any net salvage included therein. Instead, I added the normalized net salvage allowance to the expense calculated with my recommended rates.

Q. How did you calculate whole-life depreciation rates?

A. A whole-life rate is calculated as follows:

$$\frac{100\%\ \text{PIS}}{\text{ASL}}$$

Where PIS is plant in service and ASL is average service life.

Q. Is your approach consistent with NJAWC's current depreciation rates?

A. My approach is a departure from NJAWC's 1994 remaining life rates, but it is also a return to the original whole-life method.

Q. Has the Board recently shown a preference for whole-life rates?

A. Yes, below I summarize some recent experience demonstrating the Board's recent thinking on this matter.

Rockland Electric Company - BPU Docket Nos. ER02080614 and ER02100724

In this case, the Company *filed* whole-life depreciation rates with a separate reserve excess amortization. I accepted the Company's whole-life method and its life proposals,

but I recalculated the depreciation rates without incorporating a provision for net salvage. Instead, I recommended a net salvage allowance based on the most recent five years' worth of experience. I also recalculated the Company's reserve excess, based on my recommendations, but adopted the Company's proposed 20-year amortization period. The Board accepted my reserve excess calculation; however, it opted for a 10-year amortization period.[19]

Rockland Electric Company - BPU Docket No. ER06060483

In this case, the Company again filed whole-life depreciation rates but noted that it had incurred $933,439 more in cost of removal expenses over a three-year period than the allowance set in the previous case. The Company also proposed a going-forward net salvage allowance based on a three-year average. I subtracted the excess expenditures from the cost of removal reserve that was currently being amortized back to ratepayers. I also recommended some life changes and recalculated whole-life depreciation rates, and a new net salvage allowance based on a five-year period. The parties settled the case.

Atlantic City Electric Company - BPU Docket No. ER03020110 et al.

Atlantic City Electric did not file a depreciation study in conjunction with this rate case, proposing instead to maintain the depreciation rates established in 1983. I conducted a complete depreciation study and recommended new depreciation rates. I calculated remaining life rates for the transmission and distribution functions, and whole-life rates for the general plant function, consistent with the Company's existing rates, and

[19] I/M/O Rockland Electric Company, OAL Docket Nos. PUC 07892-02 and PUC 09366-02, BPU Docket Nos. ER02080614 and ER02100724, Initial Decision, June 10, 2003 and Summary Order, July 31, 2003.

recommended a net salvage allowance based on the Company's 5-year average net salvage experience.

In discovery, the BPU Staff had me prepare calculations of whole-life rates for transmission and distribution, along with a calculation of the reserve excess/deficiency. The parties agreed to change from the remaining life depreciation technique to the whole-life method with a separate amortization of any reserve excesses or deficiencies, and a separate $2.9 million annual allowance for net salvage.[20]

Q. Do you endorse whole-life depreciation?

A. Yes, I do; in fact, I believe whole-life is the superior approach.

Q. Please explain why you believe whole-life depreciation is the superior approach.

A. Whole life depreciation is superior to remaining life depreciation for new additions to plant. While a remaining life rate may be appropriate for existing plant, it is wholly inappropriate for new additions; it will create even more imbalances on a going-forward basis. A whole life rate is a superior rate because it is appropriate for both existing plant and new additions to plant.

Q. Can you demonstrate that whole-life is superior to remaining life?

A. Yes. Consider an example in which a $1,000 asset initially assumed to have a 20-year life was depreciated using a 5% depreciation rate.[21] After 10 years, the accumulated depreciation would be $500 or 50 percent of the original $1,000 cost. Now assume, that at the end of 10 years, it is determined that the life is going to be 15-years rather than 20-

[20] I/M/O Atlantic City Electric Company, BPU Docket Nos. ER03020110, ER04060423, EO03020091 and EM02090633, Decision and Order Adopting Initial Decision and Stipulation of Settlement, May 26, 2005, pages 5-6.

[21] 1/20 years = 5.0%

years. The existing depreciation reserve is immediately deficient, based on the new life assumption. The new whole-life rate is 6.7 percent.[22] The remaining life rate, however, would be 10 percent.[23] The 6.7 percent whole-life rate reflects the life anticipated for both the original $1,000 asset and any additional assets going-forward. Hence, it is appropriate for all assets in the account. The 10 percent rate is only appropriate for the initial $1,000 asset; it is inappropriate for the new assets. Application of the 10 percent to new assets will create reserve excesses for those assets. The whole life rate will not produce new reserve imbalances merely by application to new additions.

VII. Service Lives

Q. How did you study service lives?

A. We conducted extensive service life and curve analyses for each of NJAWC's accounts to estimate the projection lives I discussed earlier. We conducted retirement rate actuarial studies and simulated plant record studies. We also conducted geometric mean turnover ("GMT") analyses. If sufficient data was available, I used these GMTs to detect trends in the indications. We summarized these results in "worm charts" which track indications over time. We also summarized plant additions, retirements and balances in graphs used to provide additional information concerning the lives and retirement patterns for each account. I attempted to conduct units retirement analyses, but the company does not maintain sufficient unit retirements data. Hence, all of my studies reflect dollars. Finally, I submitted several data requests. NJAWC's responses provided

[22] 1/15 years = 6.7%.
[23] (100%-50%)/5 years=10%

additional insights into the determination of the appropriate life and curve for each account.

Q. What is the retirement rate method?

A. The retirement rate method is an actuarial technique used to study plant lives, much like the actuarial techniques used in the insurance industry to study human lives. It requires a record of the dates of placement (birth) and retirement (death) for each asset unit studied. It is the most sophisticated of the statistical life analysis methods in that it relies on the most refined level of data. Aged retirements and exposures data from a company's records are used to construct observed life tables ("OLTs"). These are then smoothed and extended by fitting, using least-squares analysis, to a family of 31 predefined survivor curves ("Iowa Curves") using varying life assumptions. The process continues until a best-fit life is found for each curve. Numerous interactive calculations are required for a retirement rate analysis.

Q. What is an Iowa curve?

A. An Iowa curve is a surrogate or standardized OLT based on a specific dispersion pattern of retirements around an average service life. The Iowa curves were devised over 60 years ago at what is now Iowa State University. Retirement dispersion merely recognizes that accounts are comprised of individual assets or units having different lives. Retirement dispersion is the scattering of retirements by age around the average service life for the entire group assets. If one thinks in terms of a "bell shaped" curve, dispersion represents the scattering of events around the average.

There are left-skewed, symmetrical and right-skewed curves known, respectively, as the "L curves," "S curves" and "R curves."[24] A number identifies the range of dispersion. A low number represents a wide pattern and high number a narrow pattern. The combination of one letter and one number defines a dispersion pattern. The combination of an average service life with an Iowa curve provides a survivor curve depicting how a group of assets will survive, or conversely be retired, over the average service life.

Q. How are Iowa curves used?

A. Iowa curves are used to smooth and extend OLTs by statistical comparison using the least squared differences approach.

Q. What is the Simulated Plant Record Balances method?

A. The Simulated Plant Record ("SPR") Balances method, commonly referred to as a semi-actuarial method, is a statistical technique used when aged retirement and exposure data is not available. The SPR Balances method requires a less refined record of annual plant additions, balances and retirements than a true actuarial rate method such as the retirement-rate method. Although the SPR Balances method uses the same Iowa Curves as the retirement-rate method, they are applied differently to obtain a best-fit result, using least-squares analysis.

Q. What is the Geometric Mean Turnover Method?

[24] There is also a set of Origin Modal ("O") curves that are essentially negative exponential curves.

A. The Geometric Mean Turnover Method ("GMT") is one of the turnover methods of life analysis. Turnover methods provide an indication of the average life of the property.[25] Turnover methods may be used to study retirements in relation to plant balances irrespective of the age of the property retired.[26] Turnover methods use annual additions, retirements and plant balances. The GMT method is based on ratios of annual additions and retirements to plant balances and is useful in detecting trends. The life estimate is the reciprocal of the geometric mean of the additions and retirements ratios averaged over a period of years.[27] Because turnover methods assume uniform retirement dispersions, the results of turnover analyses focus on the fundamental life statistic, unencumbered by 31 possible Iowa curve retirement dispersion estimates. Given sufficient data, this makes the GMT method particularly useful in detecting trends. I used GMT studies to test and corroborate where possible the results of my retirement rate studies. I also used the GMT studies to detect trends in the data.

Q. Were the GMT studies the primary basis of your life analysis?

A. No. I conducted GMT studies to provide additional information and analysis relating to each account, but my primary analysis was the retirement rate analysis.

Q. Did you conduct your analyses using the same data as Mr. Robinson?

A. Per the Stipulation in Docket No. WR06030257 the Company was supposed to provide both Mr. Robinson and me with the same data.

Q. Have you summarized the results of your life analysis?

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[25] National Association of Regulatory Utility Commissioners, Public Utility Depreciation Practices, August 1996 ("NARUC Depreciation Manual"), p. 81.
[26] Id.
[27] Id., p. 91.

A. As Exhibit___ (MJM-6) demonstrates, it is obvious that the Company is now allocating far more of its replacement costs to cost of removal.

Q. Have you applied the 5-year average differently than NJAWC?

A. Yes, NJAWC has calculated net salvage rates and then added them to plant-only rates. This approach is not necessary, and does not provide the transparency of a specific annual allowance. I have merely added the allowance to depreciation expense as a separate component thereof.

IX. Composite Depreciation Rates

Q. What is a composite depreciation rate?

A. A composite depreciation rate is the composite of more than one account depreciation rates, it could even be a single depreciation rate for an entire company.

Q. Do you object to composite depreciation rates?

A. Composite depreciation rates are fine for settlement discussions, but they are not fine for accounting purposes. Given that a composite depreciation reflects more than a single plant account, any change in the plant balances resulting from either an addition or retirement, changes the resulting composite rate. Hence, it leads to unnecessary confusion and it diminishes the accuracy of the filing.

Q. What do you recommend?

A. I recommend the Board approve only individual plant account depreciation rates and not composite depreciation rates.

Q. Does this conclude your testimony?

A. Yes, it does.

Michael J. Majoros
Exhibit -1

Exhibit___(MJM-1)

Snavely King Majoros O'Connor & Lee, Inc.

NEW JERSEY AMERICAN WATER COMPANY
FACILITIES TOUR REPORT
December 19-20, 2007

Snavely King Majoros O'Connor & Lee, Inc.

NEW JERSEY AMERICAN WATER COMPANY
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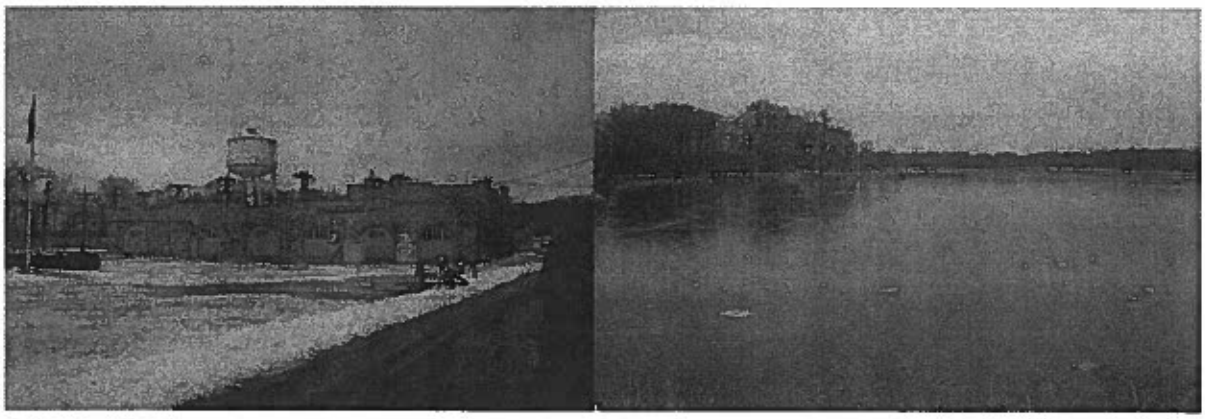
On December 19 and 20, 2007 Snavely King Majoros O'Connor & Lee, Inc. ("Snavely King") personnel attended a tour of selected facilities within the New Jersey American service areas. NJAW selected these facilities to provide an overview of its operations throughout the state NJAW's depreciation consultant, Earl Robinson, previously toured the same facilities. Subsequent to the tour, Snavely King submitted several questions to clarify its observations and understanding. Responses came in sporadically over a long period of time. This report summarizes Snavely King's tour, questions, and conclusions.

DAY ONE – December 19, 2007

Snavely King's Margaret Kenney, Glynn Stoffel and Michael Majoros arrived at the Metropark, NJ Amtrak station at 9:25. David Hunter, NJAW's representative and tour guide, drove us to the Canoe Brook Filter Plant.

CANOE BROOK FILTER PLANT TOUR



Canoe Brook Plant View **Canoe Brook Reservoir**

Upon arrival, Snavely King immediately observed a row of 36" diameter 1/32nd ductile iron ells lined along the sidewalk in front of the facility.[1]

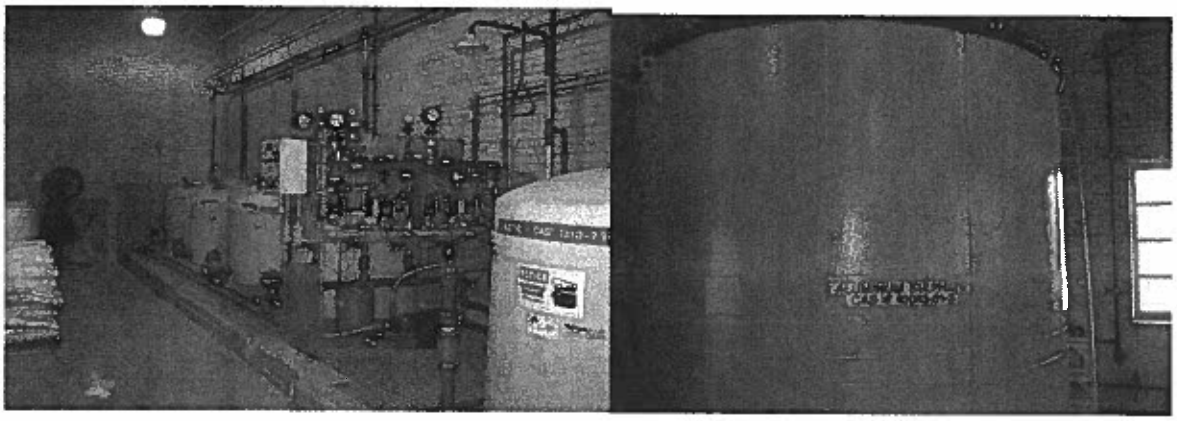
[1] From Snavely King tour notes, observations and conservations (hereafter "notes")

Iron ells in front of plant

The pipe fittings were taken from stock and used for a security barrier. These fittings are classified as a security asset – physical barrier. By using stock items, NJAW was able to construct a physical barrier rapidly after September 11, 2001 events.[2]

Susan Chiavari and Bill Oesterle, served as plant guides. [3] They explained that primarily the plant treats surface water from the Passaic River but there are some wells that supply groundwater for treatment.[4]

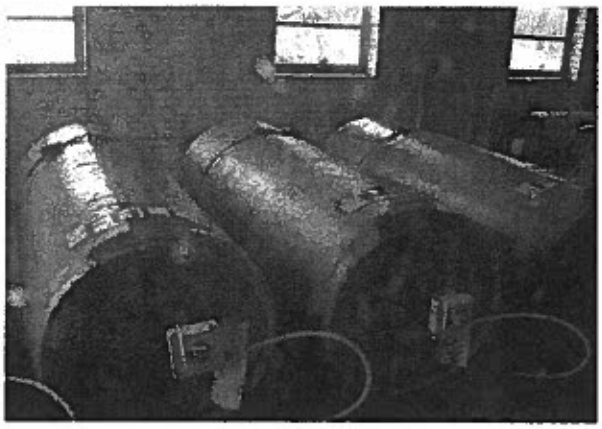
Canoe Brook uses Caustic Soda and Aluminum Sulfate for coagulation, conditioning and clarification.[5]



Chemical Control Room and Alum Tank

Canoe Brook uses 150 pound and one ton chlorine cylinders for disinfection.[6]

[2] Response to SK-82.
[3] Ms. Chiavari, PE is NJAW's Engineering Manager, Mr. Oesterle is the Canoe Brook Operations Supervisor.
[4] Notes
[5] Id
[6] Id



One-ton Chlorine Cylinders

There are no current plans to convert the Canoe Brook Water Treatment Plant disinfectant to sodium hypochlorite. Instead, a chlorine gas scrubber will be installed to enhance the safe handling of chlorine.[7]

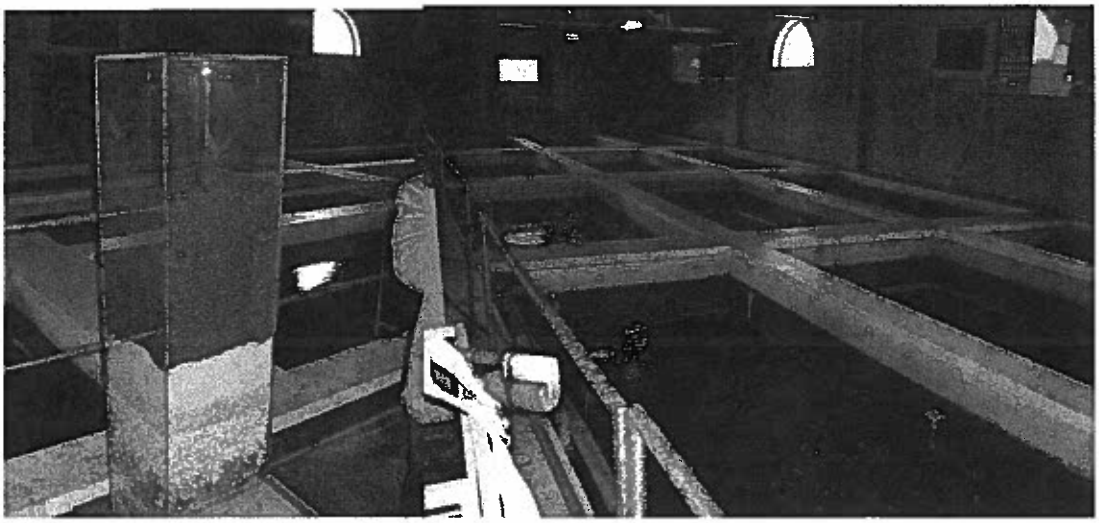
A Facility Master Plan study for future upgrades to the Canoe Brook Water Treatment Plant is currently being developed and is examining potential upgrades to the treatment processes. Membrane filtration and rapid rate gravity filters with granular activated carbon are being evaluated as potential filtration improvements.[8]

The Company is currently conducting an analysis to determine the difference in capital costs between conversions to GAC vs. membrane technology for the filter houses. The analysis has not been completed.[9] Improvements to the clarification process, chemical addition and mixing and pumping are also being considered as part of the ongoing Facility Master Plan referred to above. Two new clarification technologies being evaluated are Dissolved Air Flotation (DAF) and solids contacting clarification.[10]

As stated, a chlorine scrubber project is either underway or planned for Canoe Brook. This project will consolidate two separate chlorination facilities at the Canoe Brook Plant into one and install a dry media gas scrubber. The consolidated facilities will be housed in the pre-chlorine building. The post chlorination 150-lb cylinder equipment will be retired and the chemical will be fed from the consolidated facility. The new dry media scrubber (1-ton cylinder capacity), manufactured by Purafil, and associated HVAC and air handling equipment will be installed to enhance the safe operation of this chemical. New chemical feed lines will be constructed for the post chlorine application while making use of a significant portion of the existing post chlorine feed lines. The existing 1-ton cylinder equipment will continue to be used in the pre-chlorination building.[11]

[7] Response to SK-83.
[8] Response to SK-84
[9] Response to SK-85
[10] Response to SK-86
[11] Response to SK-87

Canoe Brook uses anthracite/sand filter beds for filtration. GAC (granulated activated carbon) is not used because it is not required and the filter boxes are not deep enough. NJAW is considering the use of GAC or membrane technology in the future.[12]



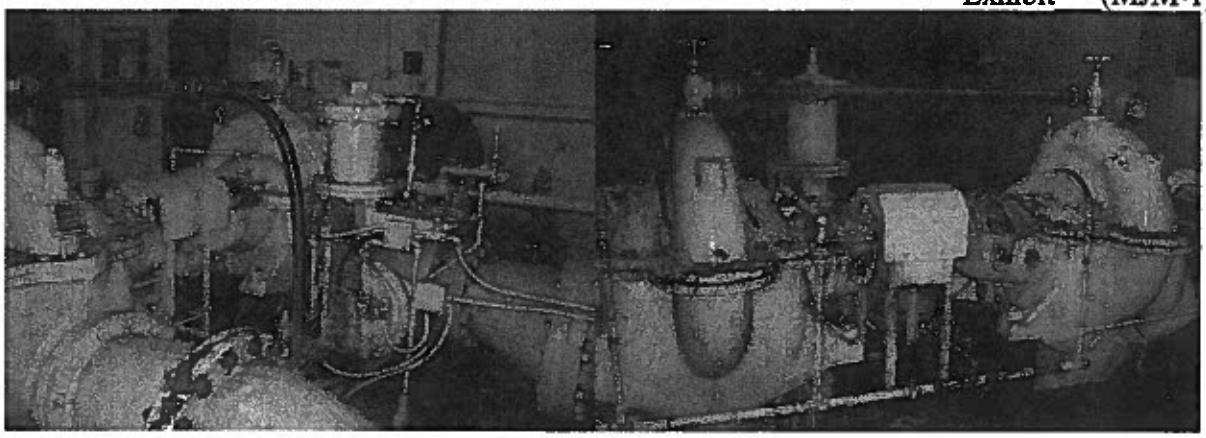
Filter-bed Mock-up **Filter Beds**

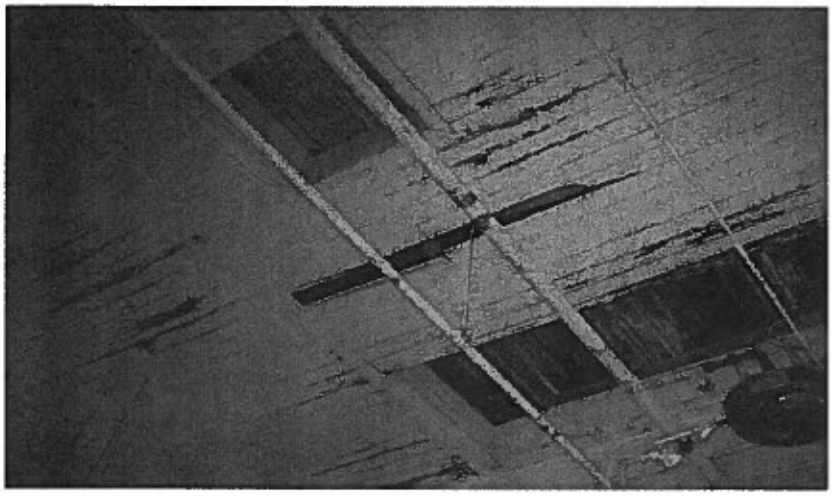
Ms. Chiavari stated that NJAW is studying retrofit versus retirement and replacement of the entire plant. She said that this is required due to the implementation of the EPA Disinfection By-Product rule that the plant must comply with by 2012.[13]

In response to SK-88, the Company said, the previously referenced Facility Master Plan for the Canoe Brook Plan is currently being developed. An improvement plan for this plant and/or replacement options have not been finalized. This facility plan is evaluating improvements needed for EPA Safe Drinking Water - Stage 2 Enhanced Surface Water Treatment and Disinfection By-Product Rules. The two rules seek to enhance microbial removal and disinfection while reducing the creation of disinfection by-products. The existing clarification process and filtration process were designed to meet all then-effective treatment standards, and that original design does not meet these new treatment standards with optimal efficiency.[14]

In the high-service pump building, we noticed that the high service pumps and piping had peeling paint and corrosion and that the ceiling in the building needed repair.[15]

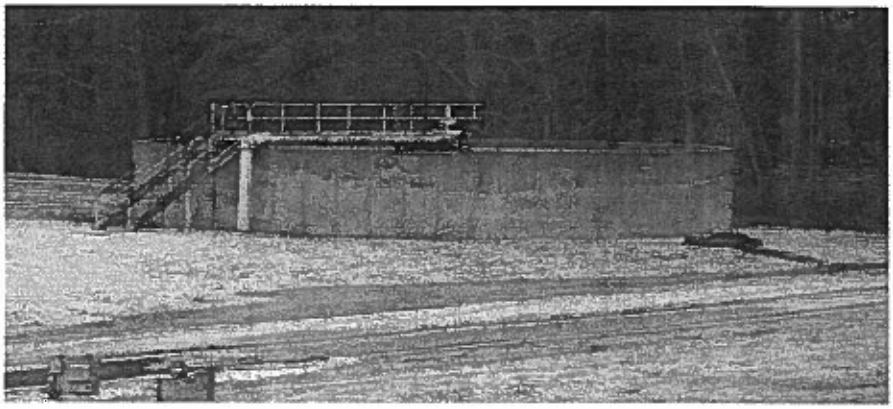
[12] Notes
[13] Notes
[14] Response to SK-88.
[15] Notes





We asked whether there are any specific reasons why this building and equipment appear to be less well-maintained. The Company objected to this question on the grounds that it contains improper assumptions and asks for an inappropriate conclusion.[16]

We observed an out-of–service circular clarifier near the Canoe Brook reservoir. The clarifier is currently classified as Utility Plant in Service, even though it has been out of service for some time. NJAW says that a retirement work order is being prepared to retire it.[17]



[16] Response to SK-89.

We noted that a pair of circular clarifiers that were off-line because of cold temperatures.[18] The circular clarifiers are used daily when water demand increases in the spring through the end of the fall. Generally the clarifiers operate from April through November. The clarifiers do not include tube settlers. The clarifiers include solids contact equipment.[19]

Canoe Brook Circular Clarifiers

David Hunter then drove the Snavely King team to the Netherwoods Operations Center where they met with Tom Schroba and Susan Chiavari who guided the facility tour.

[17] Response to RCR-DEP-42.
[18] Notes
[19] Response to SK-91.

NETHERWOODS OPERATIONS CENTER TOUR

Netherwoods Operations Center

This facility houses the Engineering/Asset Management Group, meter shop, warehouse and the distribution system Operation and Maintenance (O&M) group.

The tour commenced with a visit to the Asset Planning/Engineering Management offices. Susan Chiavari, as the Engineering Manager, along with members of her staff, provided the following information:

- The Engineering group maintains the Geographical Information System (GIS) and the Hydraulic Model at this facility. Suzanne refers to the Comprehensive Plan or the Master Plan as NJAW's Asset Management Plan.[20]

- The Engineers reviewed various GIS maps: a wall map of NJAW's distribution system, elevation profiles as well as bound field maps used by field crews for maintenance activities.[21]

- Susan and her staff discussed NJAW's condition assessment methodology for pipe replacement decision-making. NJAW considers pipe age, flow capacity, customer complaints, break frequency and the criticality of the pipe. The data is gathered from maintenance group responses to complaint and pipe break information and then NJAW determines, using its' hydraulic model, the other decision factors.[22]

- According to the engineers, NJAW's repair crews and contractors do not supply information about the pipe's condition observed during repairs or other maintenance

[20] Notes
[21] Id
[22] Id

activities. NJAW determines the pipe's structural integrity primarily by the frequency of breaks in a given pipe section.[23]

NJAW elaborated in a data response that all service areas are doing preventive maintenance both in plants and throughout the collection/distribution system. Most service areas are using some predictive (ie. condition based) including in the distribution system for leak detection.[sic] "NJAW is embarking on a formal predictive maintenance program in 2008 and will begin using Reliability Centered Maintenance (RCM) philosophies where applicable."[24] RCM is an alternative to proactive maintenance. This "…'run to failure' approach may lower cost and place a focus on critical components, which are defined as water quality, customer service, regulations and safety."[25]

NJAW further elaborated that it generally uses ductile iron pipe but has considered other materials for site-specific applications. For transmission pipes, NJAW has bid and used pre-stressed concrete cylinder pipe. For stream crossings and directional drill applications, NJAW uses high density polyethylene pipe (HDPE). In some instances they slip line with poly vinyl chloride (PVC) or HDPE pipe.[26]

NJAW explained that pipeline rehabilitation technologies, such as main line cleaning and lining, are funded through capital accounts.[27] According to the engineers, the Company has a hefty water main replacement program budgeted at $8,000,000 per year and $2,000,000 to $4,000,000 per year for main cleaning and lining. Main cleaning and lining is approximately half the cost of replacement per unit. Tom Schroba, the O&M group's Superintendent, is an advocate of main cleaning and lining.

Mr. Schroba led the tour of the facility warehouse, meter shop and maintenance yard.

- The Meter Shop contains the meter inventory and test bench. The shop appeared neat and well organized.[28]

- The Company tests the meters for accuracy, but does not repair them.[29] Inaccurate meters are sent to the Mars Company for scrapping. Mars Company subsequently processes the meters and sends a check for the scrapped value which is credited to Accumulated Reserve for Depreciation when received.[30]

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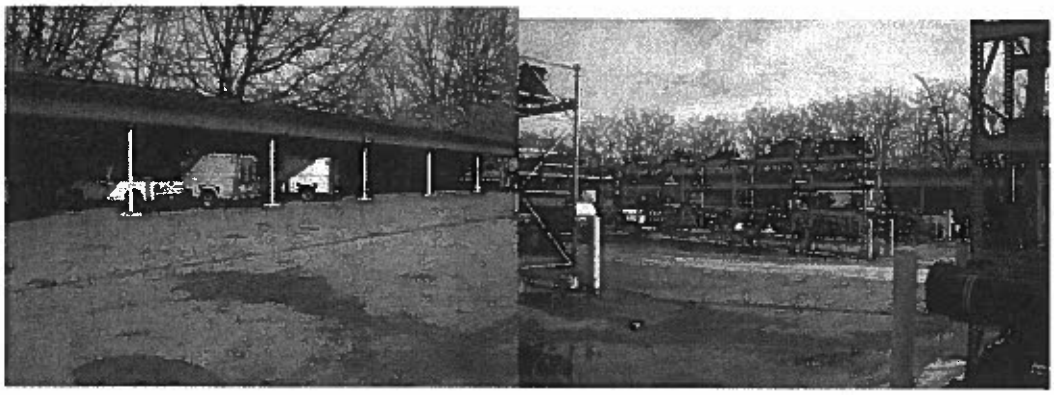
[23] Id
[24] Response to SK-45
[25] February 2005, Journal AWWA.97:2.
[26] Response to SK-95
[27] Response to SK-27
[28] Notes
[29] Id
[30] Response to RCR-DEP-44

- We are paid for the meters on a per meter basis, with the prices varying by size of meter. The proceeds from the sale of scrap material are credited to the capital meter program.[31]

We note that NJAW claims that its policy is "that meters that are older than 10 years should be retired." [32] This policy may only apply to 5/8-inch meters, which must be tested on a ten- year cycle per Board regulations. We understand that larger meters may be tested and returned to service if found to be accurate, or recalibrated/repaired if necessary.

The facility's warehouse contains the parts and specialized tools for distribution system repair, maintenance and service installation. Specialized or large diameter fittings needed for unusual repairs are either stored there or at strategic locations in the service network.[33]

The maintenance yard has a parking area for line maintenance trucks and storage racks for hydrants, pipes and fittings.



Netherwoods Maintenance Yard

The O&M group performs corrective maintenance on the distribution system. In addition, they install new service connections, conduct hydrant inspections (each hydrant yearly), distribution system flushing and valve exercising (each valve every 2 to 4 years depending on size) according to BPU requirements.[34]

The crews currently use hard-copy paper maps produced by the GIS system and bound into a book for field use.[35] Computerized field maps on laptops are not available for field crew usage. NJAW is evaluating options to provide this information to field crews in trucks while maintaining system security. [36]

The following table shows the number and size of valves in the Netherwoods service area.[37]

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[31] Id
[32] Response to RCR-DEP-62.
[33] Notes
[34] Notes
[35] Id
[36] Response to SK-94.
[37] Response to SK-97.

Netherwood - Total valves by size
1.25.08

OpCnter	Valve Type	Valve Status	Valve Size	Total
EW1	PUBLIC	ACTIVE	0	113
EW1	PUBLIC	ACTIVE	1	7
EW1	PUBLIC	ACTIVE	2	69
EW1	PUBLIC	ACTIVE	3	62
EW1	PUBLIC	ACTIVE	4	428
EW1	PUBLIC	ACTIVE	6	22853
EW1	PUBLIC	ACTIVE	8	4036
EW1	PUBLIC	ACTIVE	10	276
EW1	PUBLIC	ACTIVE	12	1877
EW1	PUBLIC	ACTIVE	14	2
EW1	PUBLIC	ACTIVE	16	647
EW1	PUBLIC	ACTIVE	20	97
EW1	PUBLIC	ACTIVE	24	93
EW1	PUBLIC	ACTIVE	30	44
EW1	PUBLIC	ACTIVE	36	113
EW1	PUBLIC	ACTIVE	48	55
EW1	PUBLIC	ACTIVE	60	13

NJAW explained that it conducts a water main flushing program that requires opening each hydrant until the water runs clear. Each Operating Center in New Jersey has a comprehensive flushing plan that aims to flush the distribution system. In most operating centers, main-line flushing is conducted annually; however, problem areas may be flushed on a more frequent basis depending on local field analysis. During drought or near drought conditions, flushing has been suspended and completed the following year.[38] Unidirectional flushing, which is flushing that requires the closing of valves to ensure scouring velocities in the main, is not routinely conducted.[39]

The O&M group at Netherwoods uses an in-house developed computerized work order system that is unable to interface with other maintenance management systems in the NJAW network.[40] This lack of interface capabilities is typical of the maintenance management systems in the NJAW operating centers.

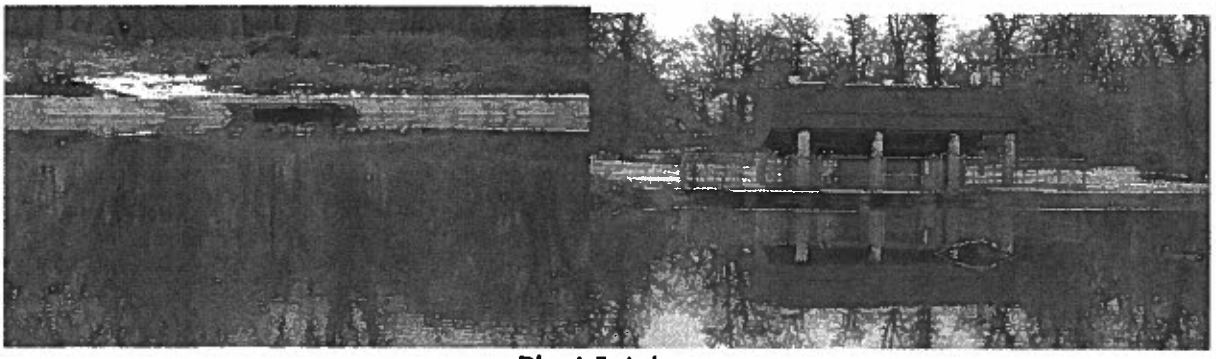
The group left Netherwoods and travelled to Raritan. Oleg Kostin, Plant Superintendent, led the tour.

[38] Response to SK-98.
[39] Notes
[40] Notes

RARITAN MILLSTONE WATER TREATMENT PLANT VISIT

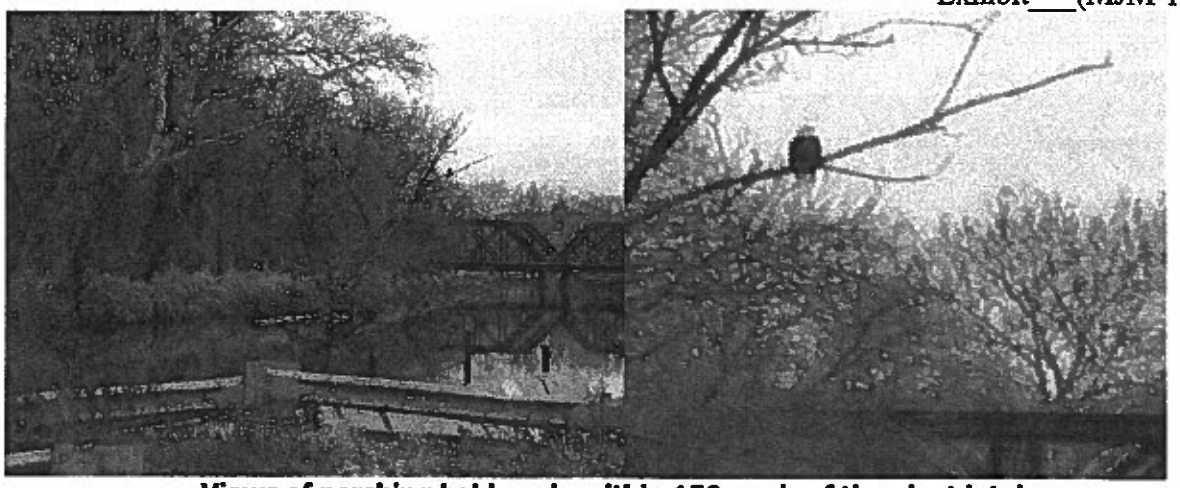
Raritan Millstone Water Treatment Plant

This water treatment plant has a capacity of 155 MGD and is located at the confluence of the Raritan and Millstone Rivers. The plant derives its name from the two rivers that supply water to the plant. There are two upstream and two downstream intakes on the Millstone and Raritan Rivers. The Canal Road Water Treatment Plant is located nearby. Canal Road is being expanded from 60 MGD to 80 MGD and will be completed September to October 2008. That expansion is an upgrade with no major retirements.[41]



Plant Intakes

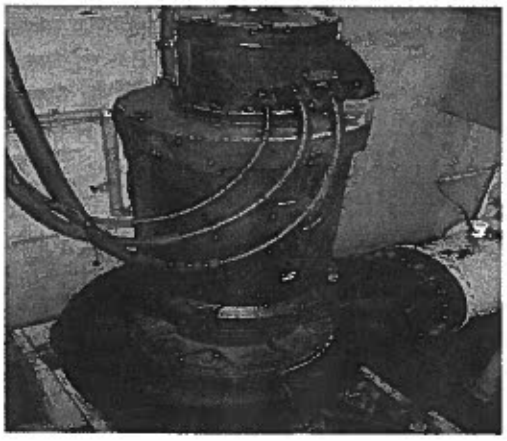
[41] Id



Views of perching bald eagle within 150 yards of the plant intakes

The Raritan Millstone plant originally went into service in 1931 with a capacity of 5 million gallons per day (MGD). Since that time NJAW has planned to develop water resources to keep pace with economic development and demand for water in central New Jersey. There have been many upgrades of varying size and purpose throughout the plant's history.[42] Mr. Kostin stated that the plant has undergone three major upgrades recently.[43]

Flooding is a problem near the raw water side of the plant, so protective berms exist to protect facilities and submersible dry-pit pumps allow for continuous pumping even during flooding conditions.[44]



Submersible Dry-Pit Pump

Plant Maintenance:

There are 15 high service and 11 low service pumps in use at the facility and they are included in a comprehensive program consisting of both preventive and predictive

[42] Response to SK-102.
[43] Notes
[44] Id

maintenance. The plant's preventive maintenance program schedules rebuilding of the most used pumps and motors every 3 years, and the other pumps every 5 years. Mr. Kostin stated that a major pump rebuild costs $85 to $90 thousand and a routine rebuild approximately $40 thousand with the costs being fully capitalized.[45]

NJAW elaborated in a data response that the high service and low service pumps at this facility undergo annual predictive maintenance including vibration analysis and efficiency testing. This work is performed annually and is used to determine or prioritize rehabilitation and repair work needed for each piece of equipment. This work is condition based and each pump undergoes rehabilitation work on an average of between five and seven years. Any needed improvements indentified during this work are coordinated with preventative maintenance schedules. Approximately $150,000 is spent annually for this work.[46]

This work is indicative of the reliability centered maintenance program utilized by NJAWC. The extent and frequency of such work is driven by the criticality of each facility and types of equipment located at each.[47]

Plant Operations:

Raritan utilizes both traditional and new technology sedimentation. The smaller sedimentation basin uses new technology and automatic sludge removal. However, the large sedimentation basin utilizes traditional methodology and does not have automatic sludge removal. This requires that the entire basin be taken off-line for sludge removal, which de-rates the facility. Therefore, sludge removal is only performed during the off-peak season.[48]

The filter building at the Raritan Millstone plant is heated by a boiler that draws exhaust heat from natural gas engine No. 10 which runs continuously. This engine, as well as three other engines, located at the plant are operated under a Title 5 Air Pollution and Emission Control Permit.[49] Solar Panels are also used at the filtration building for supplemental heat and "green" credits.

Three to four filter beds are rebuilt each year to ensure a 12-year filter rebuild cycle.[50]

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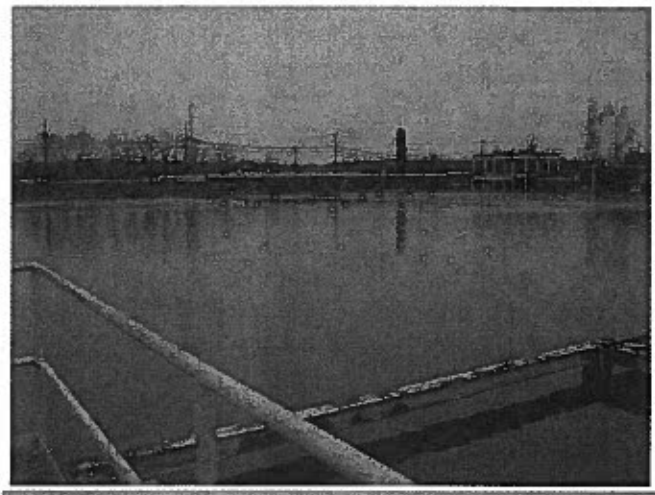
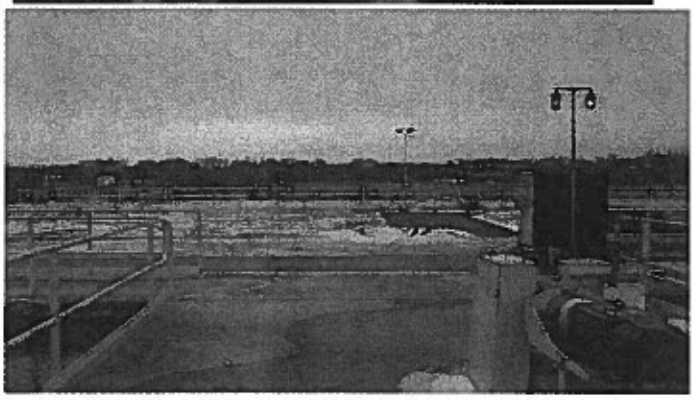
[45] Notes
[46] Response to SK-100
[47] Id
[48] Notes
[49] Response to SK-101.
[50] Notes

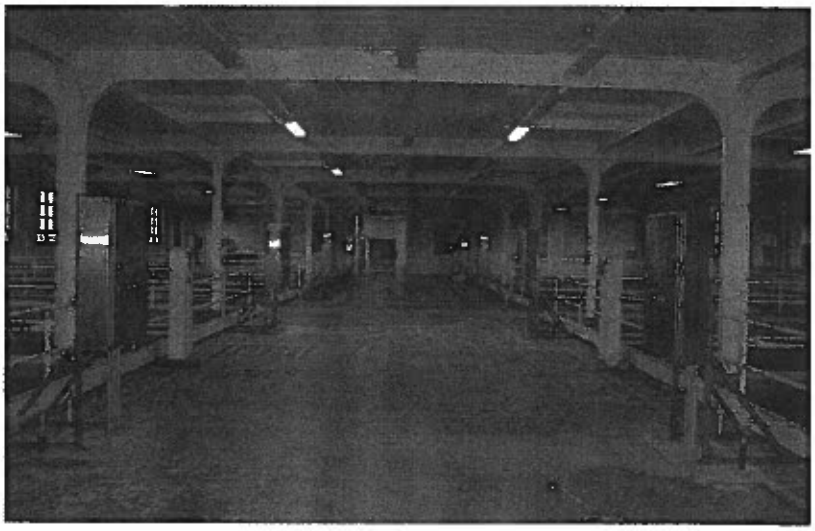


Traditional Sedimentation Basin



New technology Sedimentation Basin

Filtration Building



Sodium Hypochlorite is used as the primary disinfectant and Mr. Kostin stated that the THMs (trihalomethanes) at the plant are the lowest at any facility he ever managed.[51]

DAY 1 TOUR CONCLUDED

[51] Notes

DAY TWO, DECEMBER 20, 2007:

David Hunter met the Snavely King team at the hotel and then drove to the Woodcrest Corporate Office.

VISIT TO WOODCREST CORPORATE OFFICE

First, Frank Simpson, CFO of NJAW and Mr. Hunter provided answers to several questions. The results of the discussion included:

- The difference between *NJAW* and *Total NJ* totals in NJAW Annual Reports to the Board is the addition of sewer totals in the *Total NJ* calculation.
- Regarding GAAP cost of removal (COR) vs. the Regulatory cost of removal Mr. Simpson said the company is still charging the COR component of depreciation to maintenance expense for GAAP purposes.
- There is a single account for the additional maintenance expense.
  - Mr. Hunter was not sure if the GAAP books or the regulatory books are the official company books
  - Mr. Simpson is not sure why accountants said to treat COR this way. Snavely King said it is different from other companies.
- The Company's Regulatory Liability is approximately $5.6 million.
- Discussed the purchase of Trenton water facilities
- Discussed the upcoming separate DISC filing
- Discussed the rate case to be filed in January
- Main cleaning and lining – used more by Elizabethtown Water Company and they capitalize the costs
- Most retirements are from replacements
- Tank painting
  - Want to capitalize
  - Henkes gave fixed expense amount instead
  - They were allotted $2.9 million and spent $3 million
  - Charged to O&M subaccount now, would like to defer and amortize

Next was a teleconference with maintenance managers from NJAWS's Northern regions: Andrew Clarkson[52], Pete Goldyich[53], and Bill Thurman to discuss maintenance practices.

- There are ten maintenance depots consisting of 264 maintenance personnel responsible for the maintenance of 4,000 miles of pipe in the Northern New Jersey system (there are approximately 8,100 miles in the entire state).[54]

[52] Andrew Clarkson is responsible for O&M of Northern Transmission and Distribution systems.
[53] Pete Goldyich is the Northern Meter Superintendent
[54] Notes

- The work includes routine and emergency maintenance on the utility piping infrastructure, installing and repairing water services, reading meters, performing utility locations for the One-Call system. In-house personnel are able to perform some small main line installation, replacement and abandonment jobs, but contractors are usually used for the bulk of that work, including major repairs, since large and specialized equipment may be needed.[55]

- In-house forces conduct the valve exercising program. This program, mandated by the BPU, requires annual exercising of 43,000 valves up to 12 inches in diameter as well as 10,000 valves greater than 12 inches. Specialized valve turning equipment is required for valves greater than 12 inches in diameter.[56]

- In a data response, NJAW explained that each manager at the various Operating Centers in New Jersey is responsible for meeting BPU requirements for valve and hydrant exercising. The Company endeavors to keep each Operating Center adequately staffed and equipped to perform this required preventative maintenance work. The work is tracked, managed and measured using a web-based software program. Each month, Operating Center managers complete a statewide Key Performance Indicator Report showing their progress on these important targets. Resource allocation and performance is discussed at least monthly with the Company's senior management. As needed, resources may be adjusted to ensure the targets are achieved. All Operating Centers, except for the smallest ones, have invested in valve trucks to improve performance of the valve turning program. These vehicles are equipped with compressors for jack-hammering, a vacuum for cleaning valve boxes and automated valve turning equipment.[57]

- There were approximately 212 water main breaks in the system in the previous year. However, performance indicators or other metrics are not being used to track system maintenance trends. The maintenance management system consists of several stand-alone units that do not interface with each other.[58]

- Current water distribution system preventive maintenance consists of pipe replacement and rehabilitation. Pipe replacement selection is based on either frequency of breaks or capacity needs. When replacement is performed, the old pipe is abandoned in place, and the costs for abandonment and installation are allocated separately. As stated previously, the bulk of this replacement is performed by contractors.[59]

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[55] Notes
[56] Id
[57] SK-103 Response
[58] Notes
[59] Id

- The primary pipe rehabilitation method is cleaning and lining, which is performed exclusively by contractors. Using an annual review process, the Engineering and Operations groups selects the pipes to be cleaned and lined.[60] Pipes with water quality problems are candidates, as long as their structural integrity is acceptable. Engineering determines the structural integrity by an evaluation of the operational data.[61] The selection process for pipe replacement or restoration does not normally include physical testing of the pipes.[62]

Finally, the team met with Steve Tambini[63] to discuss pipeline condition assessment, replacement criteria and plant retirement.

- Mr. Tambini cited to a recent EPA estimate of $270 billion to replace the national aging water infrastructure.[64]

- Mr. Tambini stated that he does not believe there is a serious water loss problem in the NJAW water distribution system.[65]

- The selection of main lines for replacement is accomplished by reviewing main break frequencies, water quality issues and capacity requirements. There is currently no central database to collect main line information. Individual maintenance areas give information to the Engineering group for decision-making. [66]

- NJAW elaborated in a data response that each year it formally assesses and updates its pipeline replacement/rehabilitation plans using a prioritization model that ranks pipeline projects based on customer service parameters, regulatory requirements and fire protection needs.[67]

- Pipeline replacement scheduling is performed in coordination with local government road resurfacing programs.[68]

- Mr. Tambini stated that NJAW does not retire treatment plants, usually only components within plants. There are no current retirement plans for any treatment plants. The potential Canoe Brook plant retirement would be unusual.

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[60] Response to RCR-DEP-52
[61] Id
[62] Notes, RCR-E-201 and RCR-E-208
[63] Steve Tambini is the NJAW's Director of Engineering
[64] We note that NJAW's January 14, 2008 News Release concerning its rate case was titled: Significant Investment in Infrastructure Drives New Jersey American Water Rate Filing with New Jersey Board of Public Utilities
[65] Notes
[66] Id
[67] Response to RCR-DEP-27
[68] Notes

DELAWARE RIVER REGIONAL TREATMENT PLANT VISIT

The next stop was the Delaware River Regional Treatment Plant where Ian Miller and David Forcinito guided the plant tour.

The plant was built in 1996 and is rated at 30 MGD. The plant is esthetically pleasing and designed to facilitate tours. It provides service to local customers but also feeds other townships with supplemental water.[69]

Plant Operations:

> Ozone is the primary disinfectant with chlorine used to provide residual disinfection. It is an environmentally friendly plant in that all chemicals are completely contained. The treatment process includes the introduction of a corrosion inhibitor.[70]
>
> This plant possesses an innovative sludge drying system that provides an exceptional dried residual product.[71]

Sludge Drying Facility

> According to Mr. Miller, NJAW sends the dried residuals to farmers in Hagerstown, Maryland. However, in response to an SK inquiry, NJAW stated that there are no annual revenues received from water treatment residuals. The company owns the belt drying equipment which is included in its rate base and the operating cost related to this equipment is included in operating expense.[72]

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[69] Id
[70] Notes
[71] Initially we were under the impression that DRRTP was the only plant in the NJAW system with this type of sludge drying system. However, apparently the Jumping Brook and Oak Glen plants may also have this system and Swimming River may also being renovated to include the system.
[72] Response to SK-105

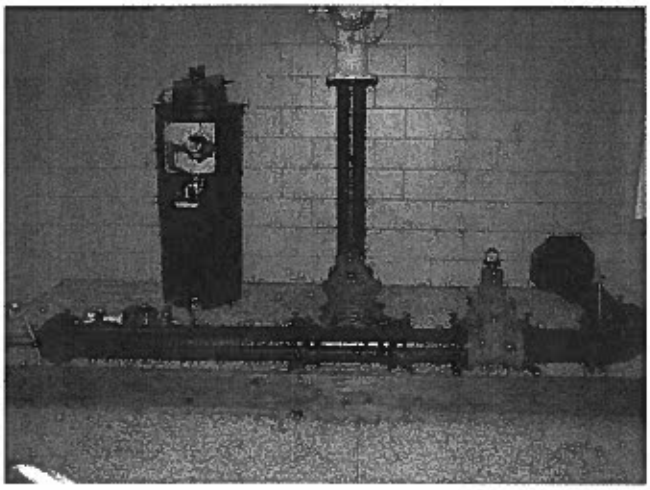
Granulated Activated Carbon (GAC) filters are used. These filters are regenerated every 4 years, two filters per year during the off-season.

Pump Maintenance:

Since the pumps are relatively new, they have not been scheduled for rebuild. Routine analysis includes annual efficiency testing and motor winding analysis, but not as aggressive as Raritan.

The high service pumps at this facility undergoes annual predictive maintenance including vibration analysis and efficiency determination. Any needed improvements indentified during this work are coordinated with preventative maintenance schedules. To date there have not been any pump failures at this facility.[73]

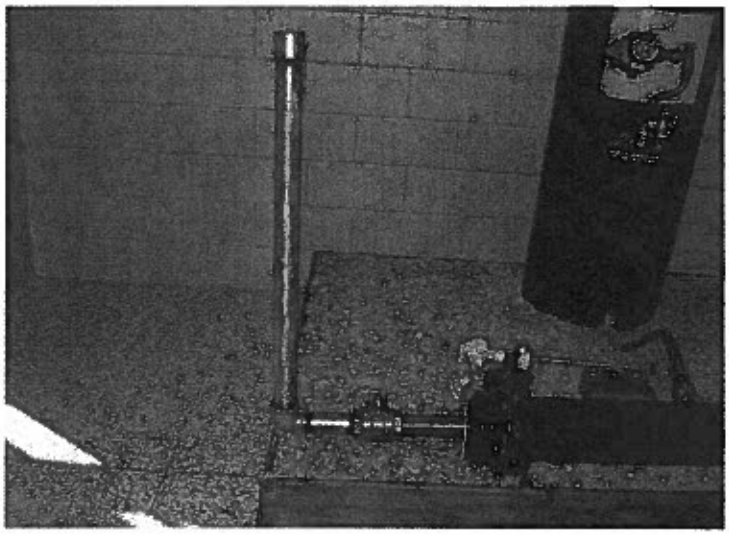
There is an interesting ductile iron pipe display at the plant:

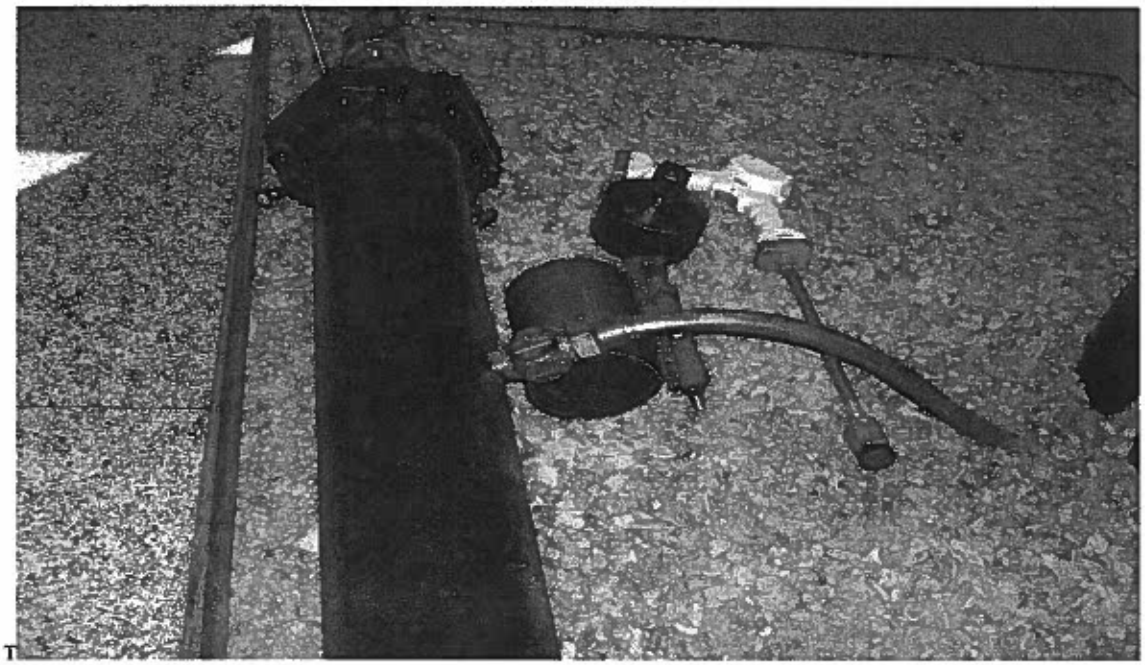


Display showing blow-off assembly on end of pipe and meter vault in background

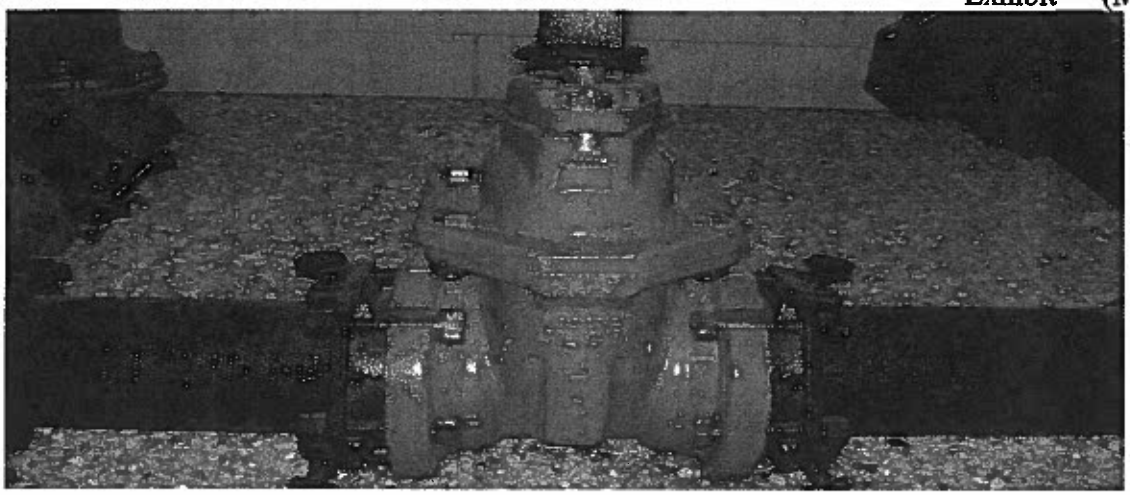
[73] Response to SK-106

Underground Water Pipe Display





Small diameter service connection



In-line water valve

DAY 2 TOUR CONCLUDED.

Travel to Philadelphia 30th Street Station, arrive 3:00 pm – return home.

SNAVELY KING OBSERVATIONS

Snavely King made several key observations in the course of the tour:

1. The Canoe Brook Water Filter Plant appeared less "well tended" than either the Raritan-Millstone or Delaware River plants. The high service pump building at Plant No. 1is part of the original construction and dates back to the 1890s. It has been in continuous service ever since. In other words, the plant is over 110 years old and still proving service. We recognize the building is old, but we were surprised at the condition of the high-service pumps and the pump room. There was debris on the grounds, empty oil cans and other materials near the pumps and dirty windows throughout the facility. However, we saw no evidence to suggest that this plant should be demolished and replaced. In fact, upgrades were already planned for the plant.

2. The Raritan-Millstone and Delaware River Water Treatment Facilities appeared very well maintained. The plant superintendents and personnel were very knowledgeable of the plants and their maintenance requirements. There are no plans to retire either of these plants from service.

3. The maintenance operation centers throughout NJAW use a variety of paper and computer based maintenance management systems that are independent and lack centralization.

4. The primary means of renewing the underground piping network is through pipe replacement.

5. It appears that *reactive* methods play a predominant role in identifying those pipes that need replacement or restoration. Pipe condition is determined primarily through customer complaints, main line breaks and capacity issues without physical testing of the main.

6. The Company uses a computer program (Powerplant) to collect and store water and wastewater pipe information.[74]

7. American Water has developed a corporate asset maintenance management strategy that is being used to standardize the approach to asset maintenance throughout the state.[75]

8. NJAW is not currently utilizing standardized performance indicators to assist in infrastructure maintenance.

9. The annual valve and hydrant exercising requirements require a huge expenditure in labor to accomplish.

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[74] Response to RCR-DEP-53

[75] Response to RCR-DEP-55. This Document is confidential.

10. The cost of removal component of depreciation is still being charged to maintenance expense for GAAP purposes.

CONCLUSIONS

This section will summarize the conclusions that Snavely King reached as a result of the field visit and information review.

In addition to a two-day field trip to their facilities and a review of NJAW's submittals, Snavely King submitted 172 questions about their business, accounting and maintenance practices. Many of these questions sought to clarify areas of concern.

For the most part, the treatment and pumping facilities Snavely King visited appeared well maintained and managed. It appeared that a balance of preventative and predictive maintenance was practiced at the facilities we visited. We concluded there is no reason to assume major final retirements of treatment plants.

Snavely King will consider NJAW's meter policy in our meters life analysis to determine in the 10-year policy is working, or if it is merely a goal.

One of NJAW's most extensive, expensive and hidden facilities is the underground water piping network. As caretakers of that network, NJAW must use the ratepayers funds efficiently in maintaining and renewing that network. It appears that NJAW is changing its current water main maintenance and renewal strategy from a combination of reactive and planned maintenance to a RCM or run to failure strategy.

We note there is not a centralized maintenance management system that links all of the maintenance depots throughout the state. NJAW does not have an integrated information technology system.[76] There are system-wide databases for main line repairs, and for the scheduled maintenance of valves and hydrants,[77] but it appears these databases are stand-alone systems that do not interface. NJAW has an array of maintenance depots throughout the state; each using independent systems to schedule and track maintenance activities. This dispersion of unconnected information throughout the network may hinder NJAW's ability to establish realistic and economic strategies for the maintenance of system assets. However, there is some indication that a centralized system is forthcoming.[78]

The selection of pipes for replacement or restoration depends primarily on *reactive* indicators such as break frequency or water quality complaints. The primary method of main line renewal is replacement.[79] Although a selection process is used that considers many factors,[80] NJAW uses the number of breaks in a pipe section as the primary method to assess the pipe's physical condition. Multiple breaks indicate a weak pipe that needs replacement. Apparently this is a common method used by utilities throughout the industry. However, it is expensive since it

[76] Response to SK-43
[77] Response to SK-41
[78] Id
[79] Notes
[80] Response to RCR-DEP-52

depends on unscheduled maintenance. A pipe that has several localized breaks is assumed to lack structural integrity and should be replaced. This could eliminate the investigation of more cost effective rehabilitation methods, such as cleaning and lining, a common restoration technique that can greatly extend the life of cast iron pipe[81] at half the cost of replacement. [82] Snavely King concludes that NJAW's move to run to failure maintenance could result in an increase in main replacements and retirements.

NJAW's primary method of determining structural integrity is through main break frequency. NJAW does not routinely perform physical testing of the pipe.[83] Physical testing at its basic level is the gathering of information about pipe condition through inspection when the pipe is exposed.

The existing valve and hydrant exercising programs require an extensive commitment of operating resources to meet BPU requirements. Analysis should be conducted to determine if, by altering annual exercising goals, some of those resources could be redirected toward in-house pipe rehabilitation, replacement or other preventative or predictive maintenance activities. However, from a depreciation standpoint, this is a major life extension program, which should be considered in the life estimate for valves.

Based solely on our conversation, Snavely King believes that perhaps more cleaning and lining should be considered given the significant cost savings associated with that activity. At a minimum, cleaning and lining is a good idea for unlined cast iron pipe that is the proper size and has no obvious structural defects.

NJAW is "expensing" its cost of removal for GAAP purposes whereas it is collecting much more cost of removal money from ratepayers each year. Perhaps the regulated books should be conformed to GAAP for this item.

[81] Service Life Analysis of Water Main Epoxy Lining, A. Deb, J. Snyder, et al, AWWA Research Foundation.
[82] Response to RCR-E-208
[83] Response to RCR-E-208

Michael J. Majoros
Exhibit -3

New Jersey-American Water Company
Total Company

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense as of December 31, 2006

Account No. (a)	Description (b)	Average Service Life (e)	Survivor Curve (f)	Whole-Life Deprecation Rate (g)=1/(e)
	Source of Supply			
311.00	SS Structures & Improvements	58	SQ	1.72%
312.00	Collecting & Impounding Res.	150	R2.5	0.67%
313.00	Lakes, River & Other Intakes	86	L0.5	1.16%
314.00	Wells & Springs	57	L0.5	1.75%
315.00	Infiltration Galleries and Tunnels	50	R3	2.00%
316.00	Supply Mains	89	R3	1.12%
317.00	Other Water Source Plant	50	R3	2.00%
	Total Source of Supply Plant			
	Pumping Plant			
321.00	Pumping Structures & Improvements	79	R1.5	1.27%
322.00	Boiler Plant Equipment	35	R3	2.86%
323.00	Other Power Production Equip	45	R3	2.22%
325.00	Electric Pumping Eq.	55	R1.0	1.82%
326.00	Diesel Pumping Eq.	58	R1	1.72%
327.00	Hydraulic Pumping Equipment	35	R3	2.86%
328.00	Other Pumping Eq.	22	R1	4.55%
	Total Pumping Plant			

	Water Treatment Plant			
331.00	WT Structures & Improvements	78	S6	1.28%
332.10	Treatment Plant Equipment	50	R4	2.00%
332.20	Chemical Equipment	50	R4	2.00%
	Total Water Treatment Plant			
	Transmission & Distribution Plant			
341.00	TD Structures & Improvements	45	R3	2.22%
342.00	Distr. Reservoirs & Standpipes	97	L1.5	1.03%
343.00	Mains	115	R4	0.87%
343.10	Mains-All Material Types - 4 In & Under	100	R1.5	1.00%
343.20	Mains-All Material Types - 6 In - 8 In	100	R4	1.00%
343.30	Mains-All Material Types - 10 In - 16 In	120	R4	0.83%
343.40	Mains - All Material Types 18" & Over	130	R4	0.77%
343.00	Trans. & Dist. Mains - All			
344.00	Fire Mains	115	R4	0.87%
345.00	Services	55	R4	1.82%
346.00	Meters	13	L0	7.69%
347.00	Meter Installations	60	R5	1.67%
348.00	Hydrants	70	R2.5	1.43%
349.00	Other Trans. & Distr. Equip.	70	R3	0.00%
	Total Trans & Distr Plant			
	General Plant			
390.00	Adm & Gen Structures & Improvements	29	R0.5	3.45%
390.10	Office Structures & Improvements	29	R0.5	3.45%
390.20	Stores, Shop & Garage Structures	76	R2.5	1.32%
390.30	Misc. Structures & Improvements	40	R2.5	2.50%
	Total Structures & Improvements			

391.00	Office Furniture & Equipment	45	R1.5	2.22%
391.20	Personal Computer Eq.	7	R1	14.29%
391.21	Mainframe Computer Equipment	16	R1.0	0.00%
391.30	Computer Software	16	R1.0	6.25%
391.50	Other Office Equipment	29	R1.0	3.45%
	Total Office Furniture & Equipment			
392.00	Transportation Equipment	7	L2	14.29%
392.10	Trans. Equip. - Light Trucks	7	L2	0.00%
392.20	Trans. Equip. - Heavy Trucks	11	L0	9.09%
392.30	Trans. Equip. - Cars	6	L3	0.00%
392.40	Trans. Equip. - Other	16	L1	6.25%
	Total Transportation			3.09%
393.00	Stores Equipment	41	L0	2.44%
394.00	Tools, Shop & Garage Equipment	30	L0	3.33%
395.00	Laboratory Equipment	23	L1	4.35%
396.00	Power Operated Equipment	15	R2	6.67%
397.00	Communication Equipment	11	L2	9.09%
398.00	Miscellaneous Equipment	20	R1	5.00%
399.00	Other Tangible Plant	21	S0	4.76%
	Total General Plant			

New Jersey-American Water Company
Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense as of December 31, 2010

Account No.	NARUC Account No.	Description	Original Cost 12/31/10	Present Rates Rate %	Present Rates Annual Accrual	NJAWC Total Proposed Rates Proposed Rate %	NJAWC Total Proposed Rates Annual Accrual	Rate Counsel Recommended Rates Proposed Rate%	Rate Counsel Recommended Rates Annual Accrual
		(1)	(2)	(3)	(4)=(2)*(3)	(5)	(6)=(2)*(5)	(7)	(8)=(2)*(7)
		DEPRECIABLE PLANT							
		Source of Supply							
304.10	311.00	SS Structures & Improvements	21,191,370	3.02%	640,431	3.14%	664,438	1.72%	365,368
305.00	312.00	Collecting & Impounding Res.	17,664,563	1.21%	214,302	0.91%	160,980	0.67%	117,764
306.00	313.00	Lakes, River & Other Intakes	1,500,247	2.30%	34,482	2.30%	34,431	1.16%	17,445
307.00	314.00	Wells & Springs	35,186,743	3.61%	1,270,810	3.09%	1,087,719	1.75%	617,311
308.00	315.00	Infiltration Galleries and Tunnels	9,663,064	2.68%	258,796	2.73%	264,258	2.00%	193,261
309.00	316.00	Supply Mains	13,041,968	1.46%	190,628	1.60%	208,406	1.12%	146,539
339.00	317.00	Other Water Source Plant	553,768	2.82%	15,608	2.82%	15,608	2.00%	11,075
		Total Source of Supply Plant	98,801,722	2.66%	2,625,057	2.29%	2,435,840		1,468,764
		Pumping Plant							
304.20	321.00	Pumping Structures & Improvements	60,152,119	2.89%	1,740,079	3.12%	1,877,172	1.27%	761,419
310.00		Power Generation Equipment	18,730,078	2.60%	486,982	2.60%	486,982		0
310.20	322.00	Boiler Plant Equipment	203,015	0.59%	1,193	0.59%	1,193	2.86%	5,800
310.10	323.00	Other Power Production Equip	7,914	2.60%	206	74.27%	5,878	2.22%	176
311.20	325.00	Electric Pumping Eq.	108,074,258	2.79%	3,019,693	2.85%	3,084,654	1.82%	1,964,987
311.20	326.00	Diesel Pumping Eq.	6,821,196	2.81%	191,947	2.81%	191,735	1.72%	117,607
311.40	327.00	Hydraulic Pumping Equipment	504,176	0.82%	4,143	0.82%	4,143	2.86%	14,405
311.50	328.00	Other Pumping Eq.	8,122,976	5.74%	466,071	5.75%	466,852	4.55%	369,226
		Total Pumping Plant	202,615,732	2.92%	5,910,315	3.27%	6,118,608		3,233,620
		Water Treatement Plant							
304.30	331.00	WT Structures & Improvements	138,692,240	2.91%	4,039,515	2.69%	3,732,894	1.28%	1,778,106
320.10	332.10	Treatment Plant Equipment	260,520,526	3.65%	9,496,406	3.52%	9,167,594	2.00%	5,210,411
320.20	332.20	Chemical Equipment	5,130,117	0.00% (1)	0	0.24%	12,461	2.00%	102,602
		Total Water Treatment Plant	404,342,883	3.35%	13,535,921	2.81%	12,912,949		7,091,118
		Transmission & Distribution Plant							
304.40	341.00	TD Structures & Improvements	6,875,755	4.47%	307,307	4.47%	307,546	2.22%	152,795
330.00	342.00	Distr. Reservoirs & Standpipes	82,394,225	2.03%	1,670,007	2.14%	1,759,609	1.03%	849,425
331.00	343.00	Mains	536,513,116	1.02%	5,494,843	0.92%	4,951,647	0.87%	4,665,331

331.10	343.10	Mains-All Material Types - 4 In & Under	23,362,242	1.98%	462,648	2.23%	521,315	1.00%	233,622
331.20	343.20	Mains-All Material Types - 6 In - 8 In	300,457,391	1.21%	3,640,005	1.36%	4,090,031	1.00%	3,004,574
331.30	343.30	Mains-All Material Types - 10 In - 16 In	236,516,884	0.93%	2,201,865	0.95%	2,239,633	0.83%	1,970,974
331.40	343.40	Mains - All Material Types 18" & Over	137,404,879	0.88%	1,203,173	0.89%	1,222,437	0.77%	1,056,961
		Total Trans & Distr Mains	1,234,254,511	1.05%	13,002,534	1.16%	13,025,064		10,931,462
332.00	344.00	Fire Mains	1,999,430	1.47%	29,324	1.69%	33,785	0.87%	17,386
333.00	345.00	Services	299,146,547	2.02%	6,029,554	2.10%	6,296,002	1.82%	5,439,028
334.10	346.00	Meters	119,018,185	11.59%	13,793,163	12.34%	14,687,853	7.69%	9,155,245
334.20	347.00	Meter Installations	113,815,674	1.93%	2,196,312	2.27%	2,580,838	1.67%	1,896,928
335.00	348.00	Hydrants	73,964,094	2.33%	1,726,112	2.99%	2,210,491	1.43%	1,056,630
339.50	349.00	Other Trans. & Distr. Equip.	16,648	-8.80%	(1,466)	30.31%	5,046	0.00%	0
		Total Trans & Distr Plant	1,931,485,069	2.01%	38,752,847	2.44%	40,906,234		29,498,899
		General Plant							
304.50	390.00	Adm & Gen Structures & Improvements	33,835,178	3.91%	1,324,361	3.52%	1,190,860	3.45%	1,166,730
304.60	390.10	Office Structures & Improvements	16,897,804	4.98%	840,808	4.14%	698,943	3.45%	582,683
304.70	390.20	Stores, Shop & Garage Structures	11,086,737	0.89%	98,535	1.90%	210,221	1.32%	145,878
304.80	390.30	Misc. Structures & Improvements	6,360,544	3.29%	209,105	3.20%	203,737	2.50%	159,014
		Total Structures & Improvements	68,180,263	3.63%	2,472,809	4.74%	2,303,762		2,054,305
340.10	391.00	Office Furniture & Equipment	16,563,422	2.67%	442,571	2.73%	452,479	2.22%	368,076
340.20	391.20	Personal Computer Eq.	9,062,970	7.89%	714,878	7.87%	713,261	14.29%	1,294,710
340.21	391.21	Mainframe Computer Equipment	12,416,022	-1.13%	(140,298)	-1.13%	(140,298)	0.00%	0
340.30	391.30	Computer Software	17,682,941	8.27%	1,462,303	8.26%	1,460,972	6.25%	1,105,184
340.40		Data Handling Equipment	418,378	7.89%	33,010	7.89%	33,010		
340.50	391.50	Other Office Equipment	210,615	7.34%	15,469	7.41%	15,600	3.45%	7,263
		Total Office Furniture & Equipment	56,354,348	4.49%	2,527,934	3.01%	2,535,024		2,775,232
341.00	392.00	Transportation Equipment	484,281	0.00%	0	0.00%	0	14.29%	69,183
341.10	392.10	Trans. Equip. - Light Trucks	2,122,999	13.29% (1)	282,147	13.29%	282,147	0.00%	0
341.20	392.20	Trans. Equip. - Heavy Trucks	1,775,118	4.12% (1)	73,135	4.12%	73,135	9.09%	161,374
341.30	392.30	Trans. Equip. - Cars	60,830	7.18% (1)	4,368	7.18%	4,368	0.00%	0
341.40	392.40	Trans. Equip. - Other	685,537	5.01% (1)	34,345	5.01%	34,345	6.25%	42,846
		Total Transportation	5,128,764	7.68%	393,994	5.67%	393,994		273,403
342.00	393.00	Stores Equipment	1,528,179	3.64%	55,577	4.01%	61,315	2.44%	37,273
343.00	394.00	Tools, Shop & Garage Equipment	8,313,268	2.84%	236,192	3.21%	266,466	3.33%	277,109
344.00	395.00	Laboratory Equipment	2,975,183	3.82%	113,798	4.41%	131,252	4.35%	129,356
345.00	396.00	Power Operated Equipment	2,236,700	4.11%	91,840	4.92%	109,974	6.67%	149,113
346.00	397.00	Communication Equipment	12,605,930	11.59%	1,461,203	11.70%	1,475,316	9.09%	1,145,994
347.00	398.00	Miscellaneous Equipment	3,625,750	3.65%	132,246	4.05%	146,775	5.00%	181,287
348.00	399.00	Other Tangible Plant	552,352	6.25%	34,538	6.86%	37,871	4.76%	26,302

		Total General Plant	161,500,737	4.66%	7,520,130	4.49%	7,461,749		5,102,941
		TOTAL DEPRECIABLE PLANT	2,798,746,143	2.44%	68,344,270	2.69%	**69,835,380**		46,395,342
						COR Flowback	(1,200,000)	**Amortization**	-1,200,000
							68,635,380		
								5-Year Net Salvage Allowance	4,498,889
								Total	49,694,231
		NON-DEPRECIABLE PLANT							
301.00	301.00	Organization	618,634.03						
302.00	302.00	Franchises And Consents	186,512.25						
303.00	303.00	Miscellaneous Intangible Plant	0.00						
303.20	310.00	Land & Land Rights	8,604,425.54						
303.30	320.00	Land & Land Rights	1,083,126.24						
303.40	330.00	Land & Land Rights	2,930,596.21						
303.50	340.00	Land & Land Rights	17,119,166.94						
303.60	389.00	Land & Land Rights	1,014,526.41						
339.10		Other P/E Intangible	817,970.89						
		TOTAL NON-DEPRECIABLE PLANT	32,374,958.51						
		TOTAL PLANT IN SERVICE	2,831,121,101.26						

Source:

Column 2: Schedule FXS-1, Table 1
Column 3: Schedule FXS-1, Table 1
Column 5: Schedule FXS-1, Table 1
Column 7: Exhibit MJM-4 in WR08010020

Michael J. Majoros
Exhibit -4

New Jersey-American Water Company, Inc.
Statewide Tariff District
Statement of Depreciation
Utility Plant Balances per Exhibit No. P-2, Schedule 48, Adjust 12/07/2011

New Jersey-American Water Company, Inc.
Docket No. WR 11070460

Line No.	Account Number	Account Title	Utility Plant at 10/31/2011	Depreciation Rate (%)	Depreciation Expense	Rate Counsel Rate (%)	Rate Counsel Expense
		(1)	(2)	(3)	(4)	(5)	(6)
1	311	Structures & Improvements - SS	19,308,755	3.14%	606,295	1.72%	332,111
2	312	Collecting & Impounding Reservoirs	15,946,293	0.91%	145,111	0.67%	106,840
3	313	Lake, River & Other Intakes	976,074	2.30%	22,450	1.16%	11,322
4	314	Wells & Springs	32,900,353	3.09%	1,016,621	1.75%	575,756
5	315	Infiltration Galleries & Tunnels	12,656	2.74%	347	2.00%	253
6	316	Supply Mains	13,125,385	1.60%	210,006	1.12%	147,004
7	317	Other P/E - SS	544,768	2.82%	15,362	2.00%	10,895
8	321	Structures & Improvements - Pumping	33,274,415	3.12%	1,038,162	1.27%	422,585
9	322	Boiler Plant Equipment	203,015	0.59%	1,198	2.86%	5,806
10	323	Power Generation Equipment	4,967,794	2.60%	129,163	2.22%	110,285
11	323	Pump Equipment Steam	7,914	74.27%	5,878	2.22%	176
12	325	Pump Equipment Electric	49,170,194	2.85%	1,401,351	1.82%	894,898
13	326	Pump Equipment Diesel	1,339,903	2.81%	37,651	1.72%	23,046
14	327	Pump Equipment Hydraulic	626,064	0.82%	5,134	2.86%	17,905
15	328	Pump Equipment Other	1,376,818	5.75%	79,167	4.55%	62,645
16	328	Pumping Equipment WT	114,419	5.75%	6,579	4.55%	5,206
17	328	Pumping Equipment TD	9,994	5.75%	575	4.55%	455
18	331	Structures & Improvements - WT	50,818,557	2.69%	1,367,019	1.28%	650,478
19	331	Structures & Improvements - WT Waste Handling	8,273,985	2.69%	222,570	1.28%	105,907
20	332	Other P/E - WT	300,176	3.51%	10,536	2.00%	6,004
21	332	WT Equipment Non-Media	97,154,125	3.51%	3,410,110	2.00%	1,943,082
22	332	Wt Equimpent Filter Media	3,003,608	0.24%	7,209	2.00%	60,072
23	337	Other P/E - WT Residuals Handling Equipment	3,535,988	3.51%	124,113		-
24	341	Structures & Improvements - TD	2,466,291	4.48%	110,490	2.22%	54,752
25	342	Distribution Reservoirs & Standpipes	274,389	2.13%	5,844	1.03%	2,826
26	342	Distribution Reservoirs & Standpipes - Original Pain	99,272	2.13%	2,114	1.03%	1,023
27	342	Elevated Tanks & Standpipes	41,849,427	2.13%	891,393	1.03%	431,049
28	342	Ground Level Facilities	5,952,233	2.13%	126,783	1.03%	61,308
29	342	Below Grade Facilties	5,419,312	2.13%	115,431	1.03%	55,819
30	342	Clearwells	4,682,018	2.13%	99,727	1.03%	48,225
31	343	TD Mains Not Classified by Size	6,298,093	0.92%	57,942	0.87%	54,793
32	343	TD Mains 4" & Less	20,556,354	2.23%	458,407	1.00%	205,564
33	343	TD Mains 6" to 8"	272,238,104	1.36%	3,702,438	1.00%	2,722,381
34	343	TD Mains 10" to 16"	223,778,254	0.95%	2,125,893	0.83%	1,857,360
35	343	TD Mains 18" & Greater	131,113,259	0.89%	1,166,908	0.77%	1,009,572
36	344	Fire Mains	509,851	1.69%	8,616	0.87%	4,436
37	345	Services	179,674,580	2.10%	3,773,166	1.82%	3,270,077
38	346	Meters	65,729,176	12.34%	8,110,980	7.69%	5,054,574
39	347	Meter Installations	93,655,610	2.27%	2,125,982	1.67%	1,564,049
40	347	Meter Vaults	9,224,370	2.27%	209,393	1.67%	154,047
41	348	Hydrants	39,638,269	2.99%	1,185,184	1.43%	566,827
42	349	Backflow Prevention Devices	328	2.10%	7	2.10%	7
43	349	Other P/E - TD	73,126	30.32%	22,172	0.00%	-
44	389	Other P/E - CPS	5,174,517	20.00%	1,034,903	20.00%	1,034,903
45	390	Structures & Improvements - AG	10,029,423	3.52%	353,036	3.45%	346,015
46	390	Structures & Improvements - Offices	15,786,827	4.14%	653,575	3.45%	544,646
47	390	Structures & Improvements - HVAC	6,139	4.14%	254	4.14%	254
48	390	Structures & Improvements - Stores, Shops & Garages	10,063,551	1.90%	191,207	1.32%	132,839

Source:
Column (2): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (3): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (5): Exhibit MJM-4 in WR08010020

49	390	Structures & Improvements - Misc	5,566,239		3.20%	178,120	2.50%	139,156
50	391	Office Furniture & Equipment	6,615,967		2.73%	180,616	2.22%	146,874
51	391	Computers & Peripheral Equipment	5,070,597		7.87%	399,056	14.29%	724,588
52	391	Computer Software	2,543,316		8.26%	210,078	6.25%	158,957
53	391	Computer Software - Mainframe	7,175,311		-1.13%	(81,081)	0.00%	-
54	391	Data Handling Equipment	413,609		7.89%	32,634	7.89%	32,634
55	391	Other Office Equipment	162,101		7.40%	11,995	3.45%	5,592
56	392	Transportation Equipment - Lt Duty Trucks	2,615,977		13.29%	347,663	0.00%	-
57	392	Transportation Equipment - Hvy Duty Trucks	1,775,118		4.12%	73,135	9.09%	161,358
58	392	Transportation Equipment - Autos	14,745		7.18%	1,059	0.00%	-
59	392	Transportation Equipment - Other	412,262		5.01%	20,654	6.25%	25,766
60	393	Stores Equipment	264,763		4.01%	10,617	2.44%	6,460
61	394	Tools, Shop & Garage Equipment	6,038,519		3.20%	193,233	3.33%	201,083
62	395	Laboratory Equipment	1,713,597		4.41%	75,570	4.35%	74,541
63	396	Power Operated Equipment	2,214,037		4.92%	108,931	6.67%	147,676
64	397	Communication Equipment - Non Telephone	1,618,633		11.70%	189,380	9.09%	147,134
65	397	Remote Control & Instruments	2,758,613		11.70%	322,758	9.09%	250,758
66	397	Communication Equipment - Telephones	258,911		11.70%	30,293	9.09%	23,535
67	398	Misc Equipment	2,145,148		4.05%	86,879	5.00%	107,257
68	399	Other Tangible Property	304,220		6.85%	20,839	4.76%	14,481
69			1,530,965,708	1,530,965,708	-	38,806,881		27,037,927
70								
71		Total depreciable plant - UOP	198,124,248	198,124,248	-	3,699,865		3,699,865
72		Non-depreciable plant - Water	24,288,269	24,288,269	-			
73		Less: Depreciation on balance of CAC and CIAC @ 10/31/11				(1,196,207)		(1,196,207)
74		Less: Cost of Removal Flowback				(1,200,000)		(1,200,000)
75								
76		Total utility plant in service - 10/31/11	1,753,378,224	1,753,378,224	-	40,110,539		28,341,585
77								
78		Test year net plant additions						
79		SL depreciated plant	18,194,493	19,624,645	(1,430,152)	596,507		
80		Less: Depreciation on additions of CAC and CIAC				12,483		
81								
82		Pro forma utility plant in service - 1/31/12	1,771,572,717	1,773,002,869	(1,430,152)	40,719,529		
83								
84		Post test year net plant additions						
85		SL depreciated plant	146,993,359	152,008,988	(5,015,629)	6,036,131		
86		Less: Depreciation on additions of CAC and CIAC				(4,492)		
87								
88		Pro forma utility plant in service - 7/31/12	1,918,566,076	1,925,011,857	(6,445,781)	46,751,167		
89								
90		Actual base year expense				34,855,657		
91								
92		Pro forma adjustment				11,895,511		
			Adjusted	9+3 Update	Difference	Adjusted		

Source:
Column (2): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (3): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (5): Exhibit MJM-4 in WR08010020

New Jersey-American Water Company, Inc.
Somerset/Mercer and Union/Middlesex Districts
Statement of Depreciation
Utility Plant Balances per Exhibit No. P-2, Schedule 48, Adjust 12/07/2011

New Jersey-American Water Company, Inc.
Docket No. WR 11070460

Line No.	Account Number	Account Title	Utility Plant at 10/31/2011	Depreciation Rate (%)	Depreciation Expense	Rate Counsel Rate (%)	Rate Counsel Expense
		(1)	(2)	(3)	(4)	(5)	(6)
1	311	Structures & Improvements - SS	1,389,275	3.14%	43,623	1.72%	23,896
2	312	Collecting & Impounding Reservoirs	1,629,305	0.91%	14,827	0.67%	10,916
3	313	Lake, River & Other Intakes	541,386	2.30%	12,452	1.16%	6,280
4	314	Wells & Springs	1,657,724	3.09%	51,224	1.75%	29,010
5	315	Infiltration Galleries & Tunnels	9,574,944	2.74%	262,353	2.00%	191,499
6	316	Supply Mains	2,036,032	1.60%	32,577	1.12%	22,804
7	321	Structures & Improvements - Pumping	26,041,993	3.12%	812,510	1.27%	330,733
8	323	Power Generation Equipment	14,037,071	2.60%	364,964	2.22%	311,623
9	325	Pump Equipment Electric	52,736,508	2.85%	1,502,990	1.82%	959,804
10	326	Pump Equipment Diesel	3,396,593	2.81%	95,444	1.72%	58,421
11	327	Pump Equipment Hydraulic	35,102	0.82%	288	2.86%	1,004
12	328	Pump Equipment Other	6,522,236	5.75%	375,029	4.55%	296,762
13	331	Structures & Improvements - WT	82,496,746	2.69%	2,219,162	1.28%	1,055,958
14	331	Structures & Improvements - WT Waste Handling	102,369	2.69%	2,754	1.28%	1,310
15	332	WT Equipment Non-Media	148,502,890	3.51%	5,212,451	2.00%	2,970,058
16	332	Wt Equimpent Filter Media	3,027,836	0.24%	7,267	2.00%	60,557
17	341	Structures & Improvements - TD	4,265,530	4.48%	191,096	2.22%	94,695
18	342	Distribution Reservoirs & Standpipes	23,611,364	2.13%	502,922	1.03%	243,197
19	342	Elevated Tanks & Standpipes	698,602	2.13%	14,880	1.03%	7,196
20	342	Ground Level Facilities	333,224	2.13%	7,098	1.03%	3,432
21	342	Below Grade Facilties	255,332	2.13%	5,439	1.03%	2,630
22	343	TD Mains Not Classified by Size	497,203,112	0.92%	4,574,269	0.87%	4,325,667
23	343	TD Mains 4" & Less	3,259,565	2.23%	72,688	1.00%	32,596
24	343	TD Mains 6" to 8"	36,637,264	1.36%	498,267	1.00%	366,373
25	343	TD Mains 10" to 16"	20,515,553	0.95%	194,898	0.83%	170,279
26	343	TD Mains 18" & Greater	14,106,484	0.89%	125,548	0.77%	108,620
27	344	Fire Mains	1,500,589	1.69%	25,360	0.87%	13,055
28	345	Services	121,266,494	2.10%	2,546,596	1.82%	2,207,050
29	346	Meters	63,095,469	12.34%	7,785,981	7.69%	4,852,042
30	347	Meter Installations	8,132,210	2.27%	184,601	1.67%	135,808
31	347	Meter Vaults	6,351,613	2.27%	144,182	1.67%	106,072
32	348	Hydrants	35,424,532	2.99%	1,059,194	1.43%	506,571
33	389	Other P/E - CPS	3,116,779	20.00%	623,356	20.00%	623,356
34	390	Structures & Improvements - AG	24,288,749	3.52%	854,964	3.45%	837,962
35	390	Structures & Improvements - Offices	963,657	4.14%	39,895	3.45%	33,246
36	390	Structures & Improvements - Stores, Shops & Garages	295,736	1.90%	5,619	1.32%	3,904
37	390	Structures & Improvements - Misc	464,720	3.20%	14,871	2.50%	11,618
38	391	Office Furniture & Equipment	10,262,000	2.73%	280,153	2.22%	227,816
39	391	Computers & Peripheral Equipment	3,346,008	7.87%	263,331	14.29%	478,144
40	391	Computer Software	15,165,265	8.26%	1,252,651	6.25%	947,829
41	391	Computer Software - Mainframe	4,911,818	-1.13%	(55,504)	0.00%	-
42	391	Other Office Equipment	27,495	7.40%	2,035	3.45%	949
43	392	Transportation Equipment - Not Classified	484,281	5.01%	24,262	14.29%	69,204
44	392	Transportation Equipment - Lt Duty Trucks	1,367,460	13.29%	181,735	0.00%	-
45	392	Transportation Equipment - Hvy Duty Trucks	2,244	4.12%	92	9.09%	204
46	392	Transportation Equipment - Autos	52,169	7.18%	3,746	0.00%	-
47	392	Transportation Equipment - Other	304,296	5.01%	15,245	6.25%	19,019
48	393	Stores Equipment	1,256,807	4.01%	50,398	2.44%	30,666
49	394	Tools, Shop & Garage Equipment	2,171,157	3.20%	69,477	3.33%	72,300
50	395	Laboratory Equipment	1,151,139	4.41%	50,765	4.35%	50,075
51	396	Power Operated Equipment	26,171	4.92%	1,288	6.67%	1,746

Source:
Column (2): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (3): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (5): Exhibit MJM-4 in WR08010020

52	397	Communication Equipment - Not Classifiec	1,344,099		11.70%	157,260	9.09%	122,179
53	397	Communication Equipment - Non Telephone	75,788		11.70%	8,867	9.09%	6,889
54	397	Remote Control & Instruments	7,178,478		11.70%	839,882	9.09%	652,524
55	397	Communication Equipment - Telephones	126,967		11.70%	14,855	9.09%	11,541
56	398	Misc Equipment	1,857,415		4.05%	75,225	5.00%	92,871
57	399	Other Tangible Property	206,523		6.85%	14,147	4.76%	9,830
58								
59		Total depreciable plant - straight line	1,270,832,166	1270832166	-	33,731,549		23,809,790
60								
61		Non-depreciable plant - Water	7,349,674	7349673.64	-			
62		Less: Depreciation on balance of CAC and CIAC @ 10/31/11				(1,482,902)		(1,482,902)
63								
64		Total utility plant in service - 10/31/11	1,278,181,840	1,278,181,840	-	32,248,647		22,326,888
65								
66		Test year net plant additions						
67		SL depreciated plant	4,905,468	7,193,855	(2,288,387)	195,100		
68		Less: Depreciation on additions of CAC and CIAC				(3,457)		
69								
70		Pro forma utility plant in service - 1/31/12	1,283,087,308	1,285,375,695	(2,288,387)	32,440,290		
71								
72		Post test year net plant additions						
73		SL depreciated plant	47,744,250	47,749,118	(4,868)	2,386,752		
74		Less: Depreciation on additions of CAC and CIAC				(78,723)		
75								
76		Pro forma utility plant in service - 7/31/12	1,330,831,558	1,333,124,813	(2,293,255)	34,748,320		
77								
78		Actual base year expense				30,372,918		
79								
80		Pro forma adjustment				4,375,402		
81								
82			Adjusted	9+3 Update	Difference	Adjusted		
83								
84								

Source:
Column (2): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (3): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (5): Exhibit MJM-4 in WR08010020

New Jersey-American Water Company, Inc.
Mt Holly District
Statement of Depreciation
Utility Plant Balances per Exhibit No. P-2, Schedule 48, Adjust 12/07/2011

New Jersey-American Water Company, Inc.
Docket No. WR 11070460

Line No.	Account Number	Account Title	Utility Plant at 10/31/2011		Depreciation Rate (%)	Depreciation Expense	Rate Counsel Rate (%)	Rate Counsel Expense
		(1)	(2)		(3)	(4)	(5)	(6)
1	311	Structures & Improvements - SS	387,126		3.14%	12,156	1.72%	6,659
2	314	Wells & Springs	3,172,476		3.09%	98,030	1.75%	55,518
3	316	Supply Mains	853,981		1.60%	13,664	1.12%	9,565
4	321	Structures & Improvements - Pumping	670,724		3.12%	20,927	1.27%	8,518
5	323	Power Generation Equipment	618,816		2.60%	16,089	2.22%	13,738
6	325	Pump Equipment Electric	4,008,388		2.85%	114,239	1.82%	72,953
7	327	Pump Equipment Hydraulic	10,889		2.81%	306	2.86%	311
8	328	Pump Equipment Other	217,945		5.75%	12,532	4.55%	9,917
9	331	Structures & Improvements - WT	4,981,542		2.69%	134,003	1.28%	63,764
10	331	Structures & Improvements - WT Waste Handling	2,551		2.69%	69	1.28%	33
11	332	WT Equipment Non-Media	12,678,420		3.51%	445,013	2.00%	253,568
12	332	Wt Equimpent Filter Media	25,694		0.24%	62	2.00%	514
13	341	Structures & Improvements - TD	1,687		4.48%	76	2.22%	37
14	342	Distribution Reservoirs & Standpipes	2,525,612		2.13%	53,796	1.03%	26,014
15	342	Elevated Tanks & Standpipes	4,008		2.13%	85	1.03%	41
16	342	Ground Level Facilities	139,351		2.13%	2,968	1.03%	1,435
17	343	TD Mains Not Classified by Size	36,011,371		0.92%	331,305	0.87%	313,299
18	343	TD Mains 4" & Less	290,811		2.23%	6,485	1.00%	2,908
19	343	TD Mains 6" to 8"	1,915,569		1.36%	26,052	1.00%	19,156
20	343	TD Mains 10" to 16"	4,399,023		0.95%	41,791	0.83%	36,512
21	343	TD Mains 18" & Greater	6,559		0.89%	58	0.77%	51
22	344	Fire Mains	30,247		1.69%	511	0.87%	263
23	345	Services	7,582,163		2.10%	159,225	1.82%	137,995
24	346	Meters	4,250,970		12.34%	524,570	7.69%	326,900
25	347	Meter Installations	433,296		2.27%	9,836	1.67%	7,236
26	347	Meter Vaults	498,656		2.27%	11,319	1.67%	8,328
27	348	Hydrants	2,029,826		2.99%	60,692	1.43%	29,027
28	389	Other P/E - CPS	140,682		20.00%	28,136	20.00%	28,136
29	390	Structures & Improvements - AG	1,999,230		3.52%	70,373	3.45%	68,973
30	390	Structures & Improvements - Offices	5,295		4.14%	219	3.45%	183
31	390	Structures & Improvements - Misc	35,810		3.20%	1,146	2.50%	895
32	391	Office Furniture & Equipment	66,664		2.73%	1,820	2.22%	1,480
33	391	Computers & Peripheral Equipment	152,793		7.87%	12,025	14.29%	21,834
34	391	Computer Software	76,567		8.26%	6,324	6.25%	4,785
35	391	Computer Software - Mainframe	300,441		-1.13%	(3,395)	0.00%	-
36	391	Other Office Equipment	2,119		7.40%	157	3.45%	73
37	392	Transportation Equipment - Lt Duty Trucks	105,373		13.29%	14,004	0.00%	-
38	392	Transportation Equipment - Autos	165		7.18%	12	0.00%	-
39	392	Transportation Equipment - Other	2,151		5.01%	108	6.25%	134
####	393	Stores Equipment	3,818		4.01%	153	2.44%	93
####	394	Tools, Shop & Garage Equipment	168,375		3.20%	5,388	3.33%	5,607
####	395	Laboratory Equipment	26,292		4.41%	1,159	4.35%	1,144
####	396	Power Operated Equipment	15,347		4.92%	755	6.67%	1,024
####	397	Communication Equipment - Non Telephone	5,163		11.70%	604	9.09%	469
####	397	Remote Control & Instruments	1,232,307		11.70%	144,180	9.09%	112,017
####	397	Communication Equipment - Telephones	233		11.70%	27	9.09%	21
####	398	Misc Equipment	19,002		4.05%	770	5.00%	950
####	399	Other Tangible Property	1,360		6.85%	93	4.76%	65
####								
####		Total depreciable plant - straight line	92,106,886	92,106,886		2,379,917		1,652,143
####								

Source:
Column (2): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (3): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (5): Exhibit MJM-4 in WR08010020

Non-depreciable plant - Water	743,044	743,044	0		
Less: Depreciation on balance of CAC and CIAC @ 10/31/11				(127,383)	(127,383)
Total utility plant in service - 10/31/11	92,849,931	92,849,931	0	2,252,534	1,524,760
Test year net plant additions					
SL depreciated plant	322,574	330,464	(7,890)	24,757	
Less: Depreciation on additions of CAC and CIAC				348	
Pro forma utility plant in service - 1/31/12	93,172,505	93,180,395	(7,890)	2,277,639	
Post test year net plant additions					
SL depreciated plant	6,550,197	6,550,673	(476)	467,736	
Less: Depreciation on additions of CAC and CIAC				580	
Pro forma utility plant in service - 7/31/12	99,722,702	99,731,068	(8,366)	2,745,955	
Actual base year expense				1,966,938	
Pro forma adjustment				779,016	
	Adjusted	9+3 Update	Difference	Adjusted	

Source:
Column (2): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (3): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (5): Exhibit MJM-4 in WR08010020

New Jersey-American Water Company, Inc.
Ocean City Sewer
Statement of Depreciation
Utility Plant Balances per Exhibit No. P-2, Schedule 48, Adjust 12/07/2011

New Jersey-American Water Company, Inc.
Docket No. WR 11070460

Line No.	Account Number	Account Title	Utility Plant at 10/31/2011		Depreciation Rate (%)	Depreciation Expense	Rate Counsel Rate (%)	Rate Counsel Expense
		(1)	(2)		(3)	(4)	(5)	(6)
1	320	WW Structures & Improvements - Coll	568,197		3.36%	19,091	2.60%	14,773
2	321	WW Collecting Mains	24,035,283		2.01%	483,109	2.01%	483,109
3	321	WW Collecting Mains Other	379,652		1.86%	7,062	2.01%	7,631
4	322	WW Services Sewer	10,653,280		2.60%	276,985	1.86%	198,151
5	323	WW Collection Sewers Forced	113,405		2.28%	2,586	2.28%	2,586
6	324	WW Special Collecting Structures	199,913		3.36%	6,717	3.36%	6,717
7	325	WW Receiving Wells	96,969		5.42%	5,256	5.42%	5,256
8	326	WW Power Generation Equipment - Coll	2,953		5.42%	160	5.42%	160
9	330	WW Structures & Improvements - SPP	453,218		3.26%	14,784	3.26%	14,784
10	331	WW Pump Equipment Electric	999,762		6.61%	66,084	6.61%	66,084
11	332	WW Pump Equipment Other Power	19,474		5.90%	1,149	5.90%	1,149
12	340	WW Structures & Improvemenst - Gen	29,151		3.26%	951	3.26%	951
13	381	WW Plant Sewers	24,493		5.42%	1,328	5.42%	1,328
14	391	WW Office Furniture & Equipment	10,358		6.97%	722	6.97%	722
15	391	WW Computers & Peripheral Equip	2,506		18.80%	471	6.97%	175
16	392	WW Transportation Equipment - Hvy Duty Trucks	347,818		16.12%	56,068	16.12%	56,068
17	394	WW Tools, Shop & Garage Equipment	54,647		11.12%	6,077	11.12%	6,077
18	395	WW Laboratory Equipment	34,416		8.27%	2,846	8.27%	2,846
19	396	WW Power Operated Equipment	321,747		5.88%	18,919	5.88%	18,919
20	398	WW Misc Equipment	6,908		8.27%	571	8.27%	571
21								
22		Total depreciable plant	38,354,150	38,354,150	-	970,936		888,057
23								
24		Non-depreciable plant - Water	6,982	6,982	-			
25		Less: Depreciation on balance of CIAC @ 10/31/11				(46,477)		(46,477)
26								
27		Total utility plant in service - 10/31/11	38,361,132	38,361,132	-	924,459		841,580
28								
29		Test year net plant additions						
30		SL depreciated plant	48,728	50,105	(1,377)	1,233		
31		Less: Depreciation on additions of CAC and CIAC				-		
32								
33		Pro forma utility plant in service - 1/31/12	38,409,860	38,411,237	(1,377)	925,692		
34								
35		Post test year net plant additions						
36		SL depreciated plant	0	0	-	0		
37		Less: Depreciation on additions of CAC and CIAC				0		
38								
39		Pro forma utility plant in service - 7/31/12	38,409,860	38,411,237	(1,377)	925,692		
40								
41		Actual base year expense				916,520		
42								
43		Pro forma adjustment				9,172		
			Adjusted	9+3 Update	Difference	Adjusted		

Source:
Column (2): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (3): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (5): Exhibit MJM-4 in WR08010020

New Jersey-American Water Company, Inc.
Lakewood Sewer
Statement of Depreciation
Utility Plant Balances per Exhibit No. P-2, Schedule 48, Adjust 12/07/2011

New Jersey-American Water Company, Inc.
Docket No. WR 11070460

Line No.	Account Number	Account Title	Utility Plant at 10/31/2011		Depreciation Rate (%)	Depreciation Expense	Rate Counsel Rate (%)	Rate Counsel Expense
		(1)	(2)		(3)	(4)	(5)	(6)
1	320	WW Structures & Improvements - Coll	2,291,452		3.36%	76,993	2.60%	59,578
2	321	WW Collecting Mains Other	247,879		1.86%	4,611	2.01%	4,982
3	321	WW Collecting Mains	29,678,772		2.01%	596,543	2.01%	596,543
4	322	WW Services Sewer	8,182,379		2.60%	212,742	1.86%	152,192
5	323	WW Collection Sewers Forced	1,030,773		2.28%	23,502	2.28%	23,502
6	324	WW Special Collecting Structures	68,764		3.36%	2,310	3.36%	2,310
7	325	WW Receiving Wells	147,516		5.42%	7,995	5.42%	7,995
8	326	WW Power Generation Equipment - Coll	109,992		5.42%	5,962	5.42%	5,962
9	327	WW Flow Measuring Devices	17,980		5.42%	975	5.42%	975
10	330	WW Structures & Improvements - SPP	755,184		3.26%	24,634	3.26%	24,634
11	331	WW Pump Equipment Electric	702,613		6.61%	46,443	6.61%	46,443
12	332	WW Pump Equipment Misc	109,510		5.90%	6,461	5.90%	6,461
13	332	WW Pump Equipment Other Power	328,410		5.90%	19,376	5.90%	19,376
14	340	WW Structures & Improvemenst - Gen	65,174		3.26%	2,126	3.26%	2,126
15	381	WW Plant Sewers	152,317		5.42%	8,256	5.42%	8,256
16	389	WW Other P/E - CPS	5,802		20.00%	1,160	5.42%	314
17	389	WW Other Plant & Misc Equipment Int	29,380		5.42%	1,592	5.42%	1,592
18	391	WW Office Furniture & Equipment	6,271		6.97%	437	6.97%	437
19	394	WW Tools, Shop & Garage Equipment	-		11.12%	-	11.12%	-
20	396	WW Power Operated Equipment	207,534		5.88%	12,203	5.88%	12,203
21	397	WW Communication Equipment	32,484		8.27%	2,686	8.27%	2,686
22	398	WW Misc Equipment	362,221		8.27%	29,956	8.27%	29,956
23								
24		Total depreciable plant	44,532,406	44,532,406	-	1,086,963		1,008,523
25								
26		Non-depreciable plant - Water	114,833	114832.6	-			
27		Less: Depreciation on balance of CIAC @ 10/31/11				(178,544)		(178,544)
28								
29		Total utility plant in service - 10/31/11	44,647,239	44,647,239	-	908,419		829,979
30								
31		Test year net plant additions						
32		SL depreciated plant	161,095	165,186	(4,091)	3,714		
33		Less: Depreciation on additions of CAC and CIAC				4,824		
34								
35		Pro forma utility plant in service - 1/31/12	44,808,334	44,812,425	(4,091)	916,957		
36								
37		Post test year net plant additions						
38		SL depreciated plant	5,567,154	5,567,984	(830)	110,653		
39		Less: Depreciation on additions of CAC and CIAC				(34,482)		
40								
41		Pro forma utility plant in service - 7/31/12	50,375,488	50,380,409	(4,921)	993,127		
42								
43		Actual base year expense				980,348		
44								
45		Pro forma adjustment				12,779		
			Adjusted	9+3 Update	Difference	Adjusted		

Source:
Column (2): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (3): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (5): Exhibit MJM-4 in WR08010020

New Jersey-American Water Company, Inc.
Adelphia Sewer
Statement of Depreciation
Utility Plant Balances per Exhibit No. P-2, Schedule 48, Adjust 12/07/2011

New Jersey-American Water Company, Inc.
Docket No. WR 11070460

Line No.	Account Number	Account Title	Utility Plant at 10/31/2011			Depreciation Rate (%)	Depreciation Expense	Rate Counsel Rate (%)	Rate Counsel Expense
		(1)	(2)			(3)	(4)	(5)	(6)
1	320	WW Structures & Improvements - Coll	436,641			3.36%	14,671	2.60%	11,353
2	321	WW Collecting Mains	5,020,532			2.01%	100,913	2.01%	100,913
3	321	WW Collecting Mains Other	61,309			1.86%	1,140	2.01%	1,232
4	322	WW Services Sewer	725,153			2.60%	18,854	1.86%	13,488
5	323	WW Collection Sewers Forced	451,541			2.28%	10,295	2.28%	10,295
6	324	WW Special Collecting Structures	16,334			3.36%	549	3.36%	549
7	325	WW Receiving Wells	9,447			5.42%	512	5.42%	512
8	326	WW Power Generation Equipment - Coll	75,240			5.42%	4,078	5.42%	4,078
9	327	WW Flow Measuring Devices	10,634			5.42%	576	5.42%	576
10	330	WW Structures & Improvements - SPP	358,127			3.26%	11,682	3.26%	11,682
11	331	WW Pump Equipment Electric	210,952			6.61%	13,944	6.61%	13,944
12	332	WW Pump Equipment Other Power	63,413			5.90%	3,741	5.90%	3,741
13	340	WW Structures & Improvemenst - Gen	263,846			3.26%	8,607	3.26%	8,607
14	349	WW Outfall Sewer Lines	61,963			5.42%	3,358	5.42%	3,358
15	398	WW Misc Equipment	129,196			8.27%	10,684	8.27%	10,684
16									
17		Total depreciable plant	7,894,327	7,894,327	-		203,604		195,012
18									
19		Non-depreciable plant	56,489	56489	-				
20		Less: Depreciation on balance of CAC and CIAC @ 10/31/11					0		0
21									
22		Total utility plant in service - 10/31/11	7,950,816	7,950,816	-		203,604		195,012
23									
24		Test year net plant additions							
25		SL depreciated plant	-	-	-		-		
26		Less: Depreciation on additions of CAC and CIAC					-		
27									
28		Pro forma utility plant in service - 1/31/12	7,950,816	7,950,816	-		203,604		
29									
30		Post test year net plant additions							
31		SL depreciated plant	-	-	-		-		
32		Less: Depreciation on additions of CAC and CIAC					-		
33									
34		Pro forma utility plant in service - 7/31/12	7,950,816	7,950,816	-		203,604		
35									
36		Actual base year expense					208,005		
37									
38		Pro forma adjustment					(4,401)		
39									
			Adjusted	9+3 Update	Difference		Adjusted		

Source:
Column (2): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (3): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (5): Exhibit MJM-4 in WR08010020

New Jersey-American Water Company, Inc.
Pottersville Sewer
Statement of Depreciation
Utility Plant Balances per Exhibit No. P-2, Schedule 48, Adjust 12/07/2011

New Jersey-American Water Company, Inc.
Docket No. WR 11070460

Line No.	Account Number	Account Title	Utility Plant at 10/31/2011		Depreciation Rate (%)	Depreciation Expense	Rate Counsel Rate (%)	Rate Counsel Expense
1		(1)	(2)		(3)	(4)	(5)	(6)
2	321	WW Collecting Mains	242,474		2.01%	4,874	2.01%	4,874
3	326	WW Power Generation Equipment - Coll	17,807		5.42%	965	5.42%	965
4	326	WW Power Generation Equipment - Treatment	82,549		5.42%	4,474	5.42%	4,474
5	330	WW Structures & Improvements - SPP	212,182		3.26%	6,921	3.26%	6,921
6	330	WW Structures & Improvements - Treatment	1,405,434		3.26%	45,817	3.26%	45,817
7	331	WW Pump Equipment Electric	196,398		6.61%	12,982	6.61%	12,982
8	332	WW Pump Equipment Other Power	22,542		5.90%	1,330	5.90%	1,330
9	340	WW Structures & Improvemenst - Gen	126,316		3.26%	4,120	3.26%	4,120
10	380	WW TD Equipment	812,361		8.27%	67,182	8.27%	67,182
11	394	WW Tools, Shop & Garage Equipment	766		11.12%	85	11.12%	85
12	395	WW Laboratory Equipment	4,138		8.27%	342	8.27%	342
13	397	WW Communication Equipment	7,356		8.27%	608	8.27%	608
14	398	WW Misc Equipment	27,096		8.27%	2,241	8.27%	2,241
15	398	WW Other Tangible Property	3,684		8.27%	305	8.27%	305
16		Total depreciable plant	3,161,104	3,161,104	-	152,246		152,246
17								
18		Non-depreciable plant	38,185	38,185	-			
19		Less: Depreciation on balance of CAC and CIAC @ 10/31/11				-		-
20								
21		Total utility plant in service - 10/31/11	3,199,289	3,199,289	-	152,246		152,246
22								
23		Test year net plant additions						
24		SL depreciated plant	10,323	10,642	(319)	567		
25		Less: Depreciation on additions of CAC and CIAC				0		
26								
27		Pro forma utility plant in service - 1/31/12	3,209,612	3,209,931	(319)	152,813		
28								
29		Post test year net plant additions						
30		SL depreciated plant	-	-	-	-		
31		Less: Depreciation on additions of CAC and CIAC				-		
32								
33		Pro forma utility plant in service - 7/31/12	3,209,612	3,209,931	(319)	152,813		
34								
35		Actual base year expense				17,977		
36								
37		Pro forma adjustment				134,836		
38								
39			Adjusted	9+3 Update	Difference	Adjusted		
40								
41								
42								
43								
44								
45								

Source:
Column (2): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (3): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (5): Exhibit MJM-4 in WR08010020

New Jersey-American Water Company, Inc.
Statewide Consumption Sewer
Statement of Depreciation
Utility Plant Balances per Exhibit No. P-2, Schedule 48, Adjust 12/07/2011

New Jersey-American Water Company, Inc.
Docket No. WR 11070460

Line No.	Account Number	Account Title	Utility Plant at 10/31/2011		Depreciation Rate (%)	Depreciation Expense	Rate Counsel Rate (%)	Rate Counsel Expense
		(1)	(2)		(3)	(4)	(5)	(6)
1	320	WW Structures & Improvements - Coll	6,014,537		3.36%	202,088	2.60%	156,378
2	321	WW Collecting Mains	27,271,468		2.01%	548,157	2.01%	548,157
3	322	WW Services Sewer	119,523		2.60%	3,108	1.86%	2,223
4	325	WW Receiving Wells	159,034		5.42%	8,620	5.42%	8,620
5	326	WW Power Generation Equipment - Coll	6,750		5.42%	366	5.42%	366
6	327	WW Flow Measuring Devices	5,827		5.42%	316	5.42%	316
7	330	WW Structures & Improvements - SPP	235,360		3.26%	7,677	3.26%	7,677
8	330	WW Structures & Improvements - Treatment	4,385		3.26%	143	3.26%	143
9	331	WW Pump Equipment Electric	245,154		6.61%	16,205	6.61%	16,205
10	332	WW Pump Equipment Other Power	408,583		5.90%	24,106	5.90%	24,106
11	332	WW Pump Equipment Misc	2,394		5.90%	141	5.90%	141
12	340	WW Structures & Improvemenst - Gen	2,213,315		3.26%	72,198	3.26%	72,198
13	380	WW TD Equipment	253,599		8.27%	20,973	5.42%	13,745
14	381	WW Plant Sewers	5,858		5.42%	317	5.42%	317
15	389	WW Other Plant & Misc Equipment Int	82,739		5.42%	4,484	5.42%	4,484
16	389	WW Other P/E - CPS	154,277		20.00%	30,855	5.42%	8,362
17	391	WW Office Furniture & Equipment	951		6.97%	66	6.97%	66
18	395	WW Laboratory Equipment	35,997		8.27%	2,977	8.27%	2,977
19	397	WW Communication Equipment	69,768		8.27%	5,770	8.27%	5,770
20	398	WW Misc Equipment	73,732		8.27%	6,098	8.27%	6,098
21	398	WW Other Tangible Property	37,291		8.27%	3,084	8.27%	3,084
22								
23		Total depreciable plant	37,400,543	37,400,543	-	957,749		881,433
24								
25		Non-depreciable plant	192,735	192,735	-			
26		Less: Depreciation on balance of CAC and CIAC @ 10/31/11				(438,872)		(438,872)
27								
28		Total utility plant in service - 10/31/11	37,593,278	37,593,278	-	518,877		442,561
29								
30		Test year net plant additions						
31		SL depreciated plant	135,504	139,204	(3,700)	7,794		
32		Less: Depreciation on additions of CAC and CIAC				-		
33								
34		Pro forma utility plant in service - 1/31/12	37,728,782	37,732,482	(3,700)	526,671		
35								
36		Post test year net plant additions						
37		SL depreciated plant	-	-	-	-		
38		Less: Depreciation on additions of CAC and CIAC				-		
39								
40		Pro forma utility plant in service - 7/31/12	37,728,782	37,732,482	(3,700)	526,671		
41								
42		Actual base year expense				-		
43								
44		Pro forma adjustment				526,671		
45								
46			Adjusted	9+3 Update	Difference	Adjusted		
47								
48								
49								

Source:
Column (2): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (3): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (5): Exhibit MJM-4 in WR08010020

New Jersey-American Water Company, Inc.
Statewide Fixed Sewer
Statement of Depreciation
Utility Plant Balances per Exhibit No. P-2, Schedule 48, Adjust 12/07/2011

New Jersey-American Water Company, Inc.
Docket No. WR 11070460

Line No.	Account Number	Account Title	Utility Plant at 10/31/2011		Depreciation Rate (%)	Depreciation Expense	Rate Counsel Rate (%)	Rate Counsel Expense
		(1)	(2)		(3)	(4)	(5)	(6)
1	320	WW Structures & Improvements - Coll	521,863		3.36%	17,535	2.60%	13,568
2	321	WW Collecting Mains	12,093,398		2.01%	243,077	2.01%	243,077
3	322	WW Services Sewer	35		2.60%	1	1.86%	1
4	326	WW Power Generation Equipment - Coll	67		5.42%	4		-
5	330	WW Structures & Improvements - SPP	8,613		3.26%	281	3.26%	281
6	331	WW Pump Equipment Electric	44,465		6.61%	2,939	6.61%	2,939
7	332	WW Pump Equipment Other Power	14,111		5.90%	833	5.90%	833
8	332	WW Pump Equipment Misc	15,383		5.90%	908	5.90%	908
9	340	WW Structures & Improvemenst - Gen	1,506,767		3.26%	49,151	3.26%	49,151
10	380	WW TD Equipment	382,519		8.27%	31,634		-
11	389	WW Other P/E - CPS	12,771		20.00%	2,554	5.42%	692
12	391	WW Office Furniture & Equipment	3,934		6.97%	274	6.97%	274
13	391	WW Computers & Peripheral Equip	48,651		18.80%	9,146	6.97%	3,391
14	392	WW Transportation Equipment - Hvy Duty Trucks	10,198		16.12%	1,644	16.12%	1,644
15	394	WW Tools, Shop & Garage Equipment	493		11.12%	55	11.12%	55
16	395	WW Laboratory Equipment	8,697		8.27%	719		-
17	396	WW Power Operated Equipment	6		5.88%	-	5.88%	-
18	397	WW Communication Equipment	30,391		8.27%	2,513		-
19	398	WW Misc Equipment	47,353		8.27%	3,916	8.27%	3,916
20	398	WW Other Tangible Property	1,621		8.27%	134	8.27%	134
21		Total depreciable plant	14,751,335	14,751,335	-	367,318		320,864
22								
23		Non-depreciable plant	1,450,962	1,450,962	-			
24		Less: Depreciation on balance of CAC and CIAC @ 10/31/11				(218,192)		(218,192)
25								
26		Total utility plant in service - 10/31/11	16,202,297	16,202,297	-	149,126		102,672
27								
28		Test year net plant additions						(3,692,371)
29		SL depreciated plant	135,504	139,204	(3,700)	7,805		
30		Less: Depreciation on additions of CAC and CIAC				-	Total Allowance for 5 year average net salvage	54,757,282 4,498,889.00
31								
32		Pro forma utility plant in service - 1/31/12	16,337,801	16,341,501	(3,700)	156,931		
33							Total Depreciation expe	59,256,171.41
34		Post test year net plant additions						
35		SL depreciated plant	63,992	63,992	-	5,390		
36		Less: Depreciation on additions of CAC and CIAC				-		
37								
38		Pro forma utility plant in service - 7/31/12	16,401,793	16,405,493	(3,700)	162,321		
39								
40		Actual base year expense				-		
41								
42		Pro forma adjustment				162,321		
43								
44			Adjusted	9+3 Update	Difference	Adjusted		

Source:
Column (2): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (3): Exhibit P-2, Schedule 48, Adjusted 12/07/11
Column (5): Exhibit MJM-4 in WR08010020

Michael J. Majoros
Exhibit -5

New Jersey-American Water Company

Docket Number WR08010020
Depreciation Rates Per Stipulation 11/05/08
Exhibit A - Sewer

NARUC	Rate
320	2.60%
321	2.01%
322	1.86%
323	2.28%
324	3.36%
325	5.42%
330	3.26%
331	6.61%
332	5.90%
340	3.26%
349	5.42%
381	5.42%
389	5.42%
391	6.97%
392	16.12%
394	11.12%
396	5.88%
398	8.27%

Michael J. Majoros

Exhibit 6

New Jersey American Water Company, Inc.
Docket No. WR 11070460
Average Net Salvage Allowance

Year		Annual Net Salvage	
2006	1/	$ 2,955,990	
2007	2/	284,828	
2008	3/	1,461,455	
2009	3/	5,907,453	
2010	3/	11,884,721	
	Total	22,494,447	
	5- Year Average	4,498,889	
	3 Year Average per Simpson	6,417,876	3/
	Excess	$ 1,918,987	

Source:

1/: Schedule FXS-2
2/: Response to RCR-DR-119;

2007 COR=	$	418,692
2007 GS=		133,864
2007 NS=		284,828

3/: FXS-1, Table 2-COR

Michael J. Majoros

Appendix A

Experience

Snavely King Majoros & O'Connor, Inc.

President (2010 to present)
Vice President and Treasurer (1988 to 2010)
Senior Consultant (1981-1987)

Mr. Majoros provides consultation specializing in accounting, financial, and management issues. He has testified as an expert witness or negotiated on behalf of clients in more than one hundred thirty regulatory federal and state regulatory proceedings involving telephone, electric, gas, water, and sewerage companies. His testimony has encompassed a wide array of complex issues including taxation, divestiture accounting, revenue requirements, rate base, nuclear decommissioning, plant lives, and capital recovery. Mr. Majoros has also provided consultation to the U.S. Department of Justice and appeared before the U.S. EPA and the Maryland State Legislature on matters regarding the accounting and plant life effects of electric plant modifications and the financial capacity of public utilities to finance environmental controls. He has estimated economic damages suffered by black farmers in discrimination suits.

Van Scoyoc & Wiskup, Inc., *Consultant (1978-1981)*

Mr. Majoros conducted and assisted in various management and regulatory consulting projects in the public utility field, including preparation of electric system load projections for a group of municipally and cooperatively owned electric systems; preparation of a system of accounts and reporting of gas and oil pipelines to be used by a state regulatory commission; accounting system analysis and design for rate proceedings involving electric, gas, and telephone utilities. Mr. Majoros provided onsite management accounting and controllership assistance to a municipal electric and water utility. Mr. Majoros also assisted in an antitrust proceeding involving a major electric utility. He submitted expert testimony in FERC Docket No. RP79-12 (El Paso Natural Gas Company), and he co-authored a study entitled Analysis of Staff Study on Comprehensive Tax Normalization that was submitted to FERC in Docket No. RM 80-42.

Handling Equipment Sales Company, Inc.
Controller/Treasurer (1976-1978)

Mr. Majoros' responsibilities included financial management, general accounting and reporting, and income taxes.

Ernst & Ernst, *Auditor (1973-1976)*

Mr. Majoros was a member of the audit staff where his responsibilities included auditing, supervision, business systems analysis, report preparation, and corporate income taxes.

University of Baltimore - *(1971-1973)*

Mr. Majoros was a full-time student in the School of Business.

During this period Mr. Majoros worked consistently on a part-time basis in the following positions: Assistant Legislative Auditor – State of Maryland, Staff Accountant – Robert M. Carney & Co., CPA's, Staff Accountant – Naron & Wegad, CPA's, Credit Clerk – Montgomery Wards.

Central Savings Bank, *(1969-1971)*

Mr. Majoros was an Assistant Branch Manager at the time he left the bank to attend college as a full-time student. During his tenure at the bank, Mr. Majoros gained experience in each department of the bank. In addition, he attended night school at the University of Baltimore.

Education

University of Baltimore, School of Business, B.S. – Concentration in Accounting

Professional Affiliations

American Institute of Certified Public Accountants
Maryland Association of C.P.A.s
Society of Depreciation Professionals

Publications, Papers, and Panels

"Analysis of Staff Study on Comprehensive Tax Normalization," FERC Docket No. RM 80-42, 1980.

"Telephone Company Deferred Taxes and Investment Tax Credits – A Capital Loss for Ratepayers," Public Utility Fortnightly, September 27, 1984.

"The Use of Customer Discount Rates in Revenue Requirement Comparisons," Proceedings of the 25th Annual Iowa State Regulatory Conference, 1986

"The Regulatory Dilemma Created By Emerging Revenue Streams of Independent Telephone Companies," Proceedings of NARUC 101st Annual Convention and Regulatory Symposium, 1989.

"BOC Depreciation Issues in the States," National Association of State Utility Consumer Advocates, 1990 Mid-Year Meeting, 1990.

"Current Issues in Capital Recovery" 30th Annual Iowa State Regulatory Conference, 1991.

"Impaired Assets Under SFAS No. 121," National Association of State Utility Consumer Advocates, 1996 Mid-Year Meeting, 1996.

"What's 'Sunk' Ain't Stranded: Why Excessive Utility Depreciation is Avoidable," with James Campbell, Public Utilities Fortnightly, April 1, 1999.

"Local Exchange Carrier Depreciation Reserve Percents," with Richard B. Lee, Journal of the Society of Depreciation Professionals, Volume 10, Number 1, 2000-2001

"Rolling Over Ratepayers," Public Utilities Fortnightly, Volume 143, Number 11, November, 2005.

"Asset Management – What is it ?" American Water Works Association, Pre-Conference Workshop, March 25, 2008.

"Main Street Gold Mine" Public Utilities Fortnightly, October, 2010

Michael J. Majoros

Appendix B

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Date	Jurisdiction / Agency	Docket	Utility
		Federal Courts	
2005	US District Court, Northern District of AL, Northwestern Division 55/56/57/	CV 01-B-403-NW	Tennessee Valley Authority
		State Legislatures	
2006	Maryland General Assembly 61/	SB154	Maryland Healthy Air Act
2006	Maryland House of Delegates 62/	HB189	Maryland Healthy Air Act
		Federal Regulatory Agencies	
1979	FERC-US 19/	RP79-12	El Paso Natural Gas Co.
1980	FERC-US 19/	RM80-42	Generic Tax Normalization
1996	CRTC-Canada 30/	97-9	All Canadian Telecoms
1997	CRTC-Canada 31/	97-11	All Canadian Telecoms
1999	FCC 32/	98-137 (Ex Parte)	All LECs
1999	FCC 32/	98-91 (Ex Parte)	All LECs
1999	FCC 32/	98-177 (Ex Parte)	All LECs
1999	FCC 32/	98-45 (Ex Parte)	All LECs
2000	EPA 35/	CAA-00-6	Tennessee Valley Authority
2003	FERC 48/	RM02-7	All Utilities
2003	FCC 52/	03-173	All LECs
2003	FERC 53/	ER03-409-000, ER03-666-000	Pacific Gas and Electric Co.
		State Regulatory Agencies	
1982	Massachusetts 17/	DPU 557/558	Western Mass Elec. Co.
1982	Illinois 16/	ICC81-8115	Illinois Bell Telephone Co.
1983	Maryland 8/	7574-Direct	Baltimore Gas & Electric Co.
1983	Maryland 8/	7574-Surrebuttal	Baltimore Gas & Electric Co.
1983	Connecticut 15/	810911	Woodlake Water Co.
1983	New Jersey 1/	815-458	New Jersey Bell Tel. Co.
1983	New Jersey 14/	8011-827	Atlantic City Sewerage Co.
1984	Dist. Of Columbia 7/	785	Potomac Electric Power Co.
1984	Maryland 8/	7689	Washington Gas Light Co.
1984	Dist. Of Columbia 7/	798	C&P Tel. Co.
1984	Pennsylvania 13/	R-832316	Bell Telephone Co. of PA
1984	New Mexico 12/	1032	Mt. States Tel. & Telegraph
1984	Idaho 18/	U-1000-70	Mt. States Tel. & Telegraph

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1984	Colorado 11/	1655	Mt. States Tel. & Telegraph
1984	Dist. Of Columbia 7/	813	Potomac Electric Power Co.
1984	Pennsylvania 3/	R842621-R842625	Western Pa. Water Co.
1985	Maryland 8/	7743	Potomac Edison Co.
1985	New Jersey 1/	848-856	New Jersey Bell Tel. Co.
1985	Maryland 8/	7851	C&P Tel. Co.
1985	California 10/	I-85-03-78	Pacific Bell Telephone Co.
1985	Pennsylvania 3/	R-850174	Phila. Suburban Water Co.
1985	Pennsylvania 3/	R850178	Pennsylvania Gas & Water Co.
1985	Pennsylvania 3/	R-850299	General Tel. Co. of PA
1986	Maryland 8/	7899	Delmarva Power & Light Co.
1986	Maryland 8/	7754	Chesapeake Utilities Corp.
1986	Pennsylvania 3/	R-850268	York Water Co.
1986	Maryland 8/	7953	Southern Md. Electric Corp.
1986	Idaho 9/	U-1002-59	General Tel. Of the Northwest
1986	Maryland 8/	7973	Baltimore Gas & Electric Co.
1987	Pennsylvania 3/	R-860350	Dauphin Cons. Water Supply
1987	Pennsylvania 3/	C-860923	Bell Telephone Co. of PA
1987	Iowa 6/	DPU-86-2	Northwestern Bell Tel. Co.
1987	Dist. Of Columbia 7/	842	Washington Gas Light Co.
1988	Florida 4/	880069-TL	Southern Bell Telephone
1988	Iowa 6/	RPU-87-3	Iowa Public Service Company
1988	Iowa 6/	RPU-87-6	Northwestern Bell Tel. Co.
1988	Dist. Of Columbia 7/	869	Potomac Electric Power Co.
1989	Iowa 6/	RPU-88-6	Northwestern Bell Tel. Co.
1990	New Jersey 1/	1487-88	Morris City Transfer Station
1990	New Jersey 5/	WR 88-80967	Toms River Water Company
1990	Florida 4/	890256-TL	Southern Bell Company
1990	New Jersey 1/	ER89110912J	Jersey Central Power & Light
1990	New Jersey 1/	WR90050497J	Elizabethtown Water Co.
1991	Pennsylvania 3/	P900465	United Tel. Co. of Pa.
1991	West Virginia 2/	90-564-T-D	C&P Telephone Co.
1991	New Jersey 1/	90080792J	Hackensack Water Co.
1991	New Jersey 1/	WR90080884J	Middlesex Water Co.
1991	Pennsylvania 3/	R-911892	Phil. Suburban Water Co.
1991	Kansas 20/	176, 716-U	Kansas Power & Light Co.
1991	Indiana 29/	39017	Indiana Bell Telephone
1991	Nevada 21/	91-5054	Central Tele. Co. – Nevada
1992	New Jersey 1/	EE91081428	Public Service Electric & Gas
1992	Maryland 8/	8462	C&P Telephone Co.
1992	West Virginia 2/	91-1037-E-D	Appalachian Power Co.
1993	Maryland 8/	8464	Potomac Electric Power Co.
1993	South Carolina 22/	92-227-C	Southern Bell Telephone
1993	Maryland 8/	8485	Baltimore Gas & Electric Co.
1993	Georgia 23/	4451-U	Atlanta Gas Light Co.

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1993	New Jersey 1/	GR93040114	New Jersey Natural Gas. Co.
1994	Iowa 6/	RPU-93-9	U.S. West – Iowa
1994	Iowa 6/	RPU-94-3	Midwest Gas
1995	Delaware 24/	94-149	Wilm. Suburban Water Corp.
1995	Connecticut 25/	94-10-03	So. New England Telephone
1995	Connecticut 25/	95-03-01	So. New England Telephone
1995	Pennsylvania 3/	R-00953300	Citizens Utilities Company
1995	Georgia 23/	5503-0	Southern Bell
1996	Maryland 8/	8715	Bell Atlantic
1996	Arizona 26/	E-1032-95-417	Citizens Utilities Company
1996	New Hampshire 27/	DE 96-252	New England Telephone
1997	Iowa 6/	DPU-96-1	U S West – Iowa
1997	Ohio 28/	96-922-TP-UNC	Ameritech – Ohio
1997	Michigan 28/	U-11280	Ameritech – Michigan
1997	Michigan 28/	U-112 81	GTE North
1997	Wyoming 27/	7000-ztr-96-323	US West – Wyoming
1997	Iowa 6/	RPU-96-9	US West – Iowa
1997	Illinois 28/	96-0486-0569	Ameritech – Illinois
1997	Indiana 28/	40611	Ameritech – Indiana
1997	Indiana 27/	40734	GTE North
1997	Utah 27/	97-049-08	US West – Utah
1997	Georgia 28/	7061-U	BellSouth – Georgia
1997	Connecticut 25/	96-04-07	So. New England Telephone
1998	Florida 28/	960833-TP et. al.	BellSouth – Florida
1998	Illinois 27/	97-0355	GTE North/South
1998	Michigan 33/	U-11726	Detroit Edison
1999	Maryland 8/	8794	Baltimore Gas & Electric Co.
1999	Maryland 8/	8795	Delmarva Power & Light Co.
1999	Maryland 8/	8797	Potomac Edison Company
1999	West Virginia 2/	98-0452-E-GI	Electric Restructuring
1999	Delaware 24/	98-98	United Water Company
1999	Pennsylvania 3/	R-00994638	Pennsylvania American Water
1999	West Virginia 2/	98-0985-W-D	West Virginia American Water
1999	Michigan 33/	U-11495	Detroit Edison
2000	Delaware 24/	99-466	Tidewater Utilities
2000	New Mexico 34/	3008	US WEST Communications, Inc.
2000	Florida 28/	990649-TP	BellSouth -Florida
2000	New Jersey 1/	WR30174	Consumer New Jersey Water
2000	Pennsylvania 3/	R-00994868	Philadelphia Suburban Water
2000	Pennsylvania 3/	R-0005212	Pennsylvania American Sewerage
2000	Connecticut 25/	00-07-17	Southern New England Telephone
2001	Kentucky 36/	2000-373	Jackson Energy Cooperative
2001	Kansas 38/39/40/	01-WSRE-436-RTS	Western Resources
2001	South Carolina 22/	2001-93-E	Carolina Power & Light Co.
2001	North Dakota 37/	PU-400-00-521	Northern States Power/Xcel Energy

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2001	Indiana 29/41/	41746	Northern Indiana Power Company
2001	New Jersey 1/	GR01050328	Public Service Electric and Gas
2001	Pennsylvania 3/	R-00016236	York Water Company
2001	Pennsylvania 3/	R-00016339	Pennsylvania America Water
2001	Pennsylvania 3/	R-00016356	Wellsboro Electric Coop.
2001	Florida 4/	010949-EL	Gulf Power Company
2001	Hawaii 42/	00-309	The Gas Company
2002	Pennsylvania 3/	R-00016750	Philadelphia Suburban
2002	Nevada 43/	01-10001 &10002	Nevada Power Company
2002	Kentucky 36/	2001-244	Fleming Mason Electric Coop.
2002	Nevada 43/	01-11031	Sierra Pacific Power Company
2002	Georgia 27/	14361-U	BellSouth-Georgia
2002	Alaska 44/	U-01-34,82-87,66	Alaska Communications Systems
2002	Wisconsin 45/	2055-TR-102	CenturyTel
2002	Wisconsin 45/	5846-TR-102	TelUSA
2002	Vermont 46/	6596	Citizen's Energy Services
2002	North Dakota 37/	PU-399-02-183	Montana Dakota Utilities
2002	Kansas 40/	02-MDWG-922-RTS	Midwest Energy
2002	Kentucky 36/	2002-00145	Columbia Gas
2002	Oklahoma 47/	200200166	Reliant Energy ARKLA
2002	New Jersey 1/	GR02040245	Elizabethtown Gas Company
2003	New Jersey 1/	ER02050303	Public Service Electric and Gas Co.
2003	Hawaii 42/	01-0255	Young Brothers Tug & Barge
2003	New Jersey 1/	ER02080506	Jersey Central Power & Light
2003	New Jersey 1/	ER02100724	Rockland Electric Co.
2003	Pennsylvania 3/	R-00027975	The York Water Co.
2003	Pennsylvania /3	R-00038304	Pennsylvania-American Water Co.
2003	Kansas 20/ 40/	03-KGSG-602-RTS	Kansas Gas Service
2003	Nova Scotia, CN 49/	EMO NSPI	Nova Scotia Power, Inc.
2003	Kentucky 36/	2003-00252	Union Light Heat & Power
2003	Alaska 44/	U-96-89	ACS Communications, Inc.
2003	Indiana 29/	42359	PSI Energy, Inc.
2003	Kansas 20/ 40/	03-ATMG-1036-RTS	Atmos Energy
2003	Florida 50/	030001-E1	Tampa Electric Company
2003	Maryland 51/	8960	Washington Gas Light
2003	Hawaii 42/	02-0391	Hawaiian Electric Company
2003	Illinois 28/	02-0864	SBC Illinois
2003	Indiana 28/	42393	SBC Indiana
2004	New Jersey 1/	ER03020110	Atlantic City Electric Co.
2004	Arizona 26/	E-01345A-03-0437	Arizona Public Service Company
2004	Michigan 27/	U-13531	SBC Michigan
2004	New Jersey 1/	GR03080683	South Jersey Gas Company
2004	Kentucky 36/	2003-00434,00433	Kentucky Utilities, Louisville Gas & Electric
2004	Florida 50/ 54/	031033-EI	Tampa Electric Company

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2004	Kentucky 36/	2004-00067	Delta Natural Gas Company
2004	Georgia 23/	18300, 15392, 15393	Georgia Power Company
2004	Vermont 46/	6946, 6988	Central Vermont Public Service Corporation
2004	Delaware 24/	04-288	Delaware Electric Cooperative
2004	Missouri 58/	ER-2004-0570	Empire District Electric Company
2005	Florida 50/	041272-EI	Progress Energy Florida, Inc.
2005	Florida 50/	041291-EI	Florida Power & Light Company
2005	California 59/	A.04-12-014	Southern California Edison Co.
2005	Kentucky 36/	2005-00042	Union Light Heat & Power
2005	Florida 50/	050045 & 050188-EI	Florida Power & Light Co.
2005	Kansas 38/ 40/	05-WSEE-981-RTS	Westar Energy, Inc.
2006	Delaware 24/	05-304	Delmarva Power & Light Company
2006	California 59/	A.05-12-002	Pacific Gas & Electric Co.
2006	New Jersey 1/	GR05100845	Public Service Electric and Gas Co.
2006	Colorado 60/	06S-234EG	Public Service Co. of Colorado
2006	Kentucky 36/	2006-00172	Union Light, Heat & Power
2006	Kansas 40/	06-KGSG-1209-RTS	Kansas Gas Service
2006	West Virginia 2/	06-0960-E-42T, 06-1426-E-D	Allegheny Power
2006	West Virginia 2/	05-1120-G-30C, 06-0441-G-PC, et al.	Hope Gas, Inc. and Equitable Resources, Inc.
2007	Delaware 24/	06-284	Delmarva Power & Light Company
2007	Kentucky 36/	2006-00464	Atmos Energy Corporation
2007	Colorado 60/	06S-656G	Public Service Co. of Colorado
2007	California 59/	A.06-12-009, A.06-12-010	San Diego Gas & Electric Co., and Southern California Gas Co.
2007	Kentucky 36/	2007-00143	Kentucky-American Water Co.
2007	Kentucky 36/	2007-00089	Delta Natural Gas Co.
2008	Kansas 40/	08-ATMG-280-RTS	Atmos Energy Corporation
2008	New Jersey 1/	GR07110889	New Jersey Natural Gas Co.
2008	North Dakota 37/	PU-07-776	Northern States Power/Xcel Energy
2008	Pennsylvania 3/	A-2008-2034045 et al	UGI Utilities, Inc. / PPL Gas Utilities Corp.
2008	Washington 63/	UE-072300, UG-072301	Puget Sound Energy
2008	Pennsylvania 3/	R-2008-2032689	Pennsylvania-American Water Co. - Coatesville
2008	New Jersey 1/	WR08010020	NJ American Water Co.
2008	Washington 63/ 64/	UE-080416, UG-080417	Avista Corporation
2008	Texas 65/	473-08-3681, 35717	Oncor Electric Delivery Co.
2008	Tennessee 66/	08-00039	Tennessee-American Water Co.
2008	Kansas	08-WSEE-1041-RTS	Westar Energy, Inc.
2009	Kentucky 36/	2008-00409	East Kentucky Power Coop.

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2009	Indiana 29/	43501	Duke Energy Indiana
2009	Indiana 29/	43526	Northern Indiana Public Service Co.
2009	Michigan 33/	U-15611	Consumers Energy Company
2009	Kentucky 36/	2009-00141	Columbia Gas of Kentucky
2009	New Jersey 1/	GR00903015	Elizabethtown Gas Company
2009	District of Columbia 7/	FC 1076	Potomac Electric Power
2009	New Jersey 1/	GR09050422	Public Service Gas & Electric Co.
2009	Kentucky 36/	2009-00202	Duke Energy Kentucky Co.
2010	Kentucky 36/	2009-00549	Louisville Gas and Electric Co.
2010	Kentucky 36/	2009-00548	Kentucky Utilities Co.
2010	New Jersey 1/	GR10010035	Southern New Jersey Gas Co.
2010	Hawaii 42/	2009-0286	Maui Electric Co.
2010	Hawaii 42/	2009-0321	Hawaii Electric Light Co.
2010	Hawaii 42/	2010-0053	Hawaiian Electric Co.
2010	Lancaster 3/	R-2010-2179103	Lancaster Water Fund
2011	Kansas 40/	11-KCPE-581-PRE	Kansas City Power and Light Co.
2011	Delaware 24/	11-207	Artesian

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PARTICIPATION AS NEGOTIATOR IN FCC TELEPHONE DEPRECIATION RATE REPRESCRIPTION CONFERENCES

COMPANY	YEARS	CLIENT
Diamond State Telephone Co. 24/	1985 + 1988	Delaware Public Service Comm
Bell Telephone of Pennsylvania 3/	1986 + 1989	PA Consumer Advocate
Chesapeake & Potomac Telephone Co. - Md. 8/	1986	Maryland People's Counsel
Southwestern Bell Telephone – Kansas 20/	1986	Kansas Corp. Commission
Southern Bell – Florida 4/	1986	Florida Consumer Advocate
Chesapeake & Potomac Telephone Co.-W.Va. 2/	1987 + 1990	West VA Consumer Advocate
New Jersey Bell Telephone Co. 1/	1985 + 1988	New Jersey Rate Counsel
Southern Bell - South Carolina 22/	1986 + 1989 + 1992	S. Carolina Consumer Advocate
GTE-North – Pennsylvania 3/	1989	PA Consumer Advocate

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PARTICIPATION IN PROCEEDINGS WHICH WERE SETTLED BEFORE TESTIMONY WAS SUBMITTED

STATE	DOCKET NO.	UTILITY
Maryland 8/	7878	Potomac Edison
Nevada 21/	88-728	Southwest Gas
New Jersey 1/	WR90090950J	New Jersey American Water
New Jersey 1/	WR900050497J	Elizabethtown Water
New Jersey 1/	WR91091483	Garden State Water
West Virginia 2/	91-1037-E	Appalachian Power Co.
Nevada 21/	92-7002	Central Telephone - Nevada
Pennsylvania 3/	R-00932873	Blue Mountain Water
West Virginia2/	93-1165-E-D	Potomac Edison
West Virginia2/	94-0013-E-D	Monongahela Power
New Jersey 1/	WR94030059	New Jersey American Water
New Jersey 1/	WR95080346	Elizabethtown Water
New Jersey 1/	WR95050219	Toms River Water Co.
Maryland 8/	8796	Potomac Electric Power Co.
South Carolina 22/	1999-077-E	Carolina Power & Light Co.
South Carolina 22/	1999-072-E	Carolina Power & Light Co.
Kentucky 36/	2001-104 & 141	Kentucky Utilities, Louisville Gas and Electric
Kentucky 36/	2002-485	Jackson Purchase Energy Corporation
Kentucky 36/	2009-00202	Duke Energy Kentucky
New Jersey 1/	ER09080664	Atlantic City Electric Co.
New Jersey 1/	ER09080668	Rockland Electric Co.

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Clients

1/ New Jersey Rate Counsel/Advocate	34/ New Mexico Attorney General
2/ West Virginia Consumer Advocate	35/ Environmental Protection Agency Enforcement Staff
3/ Pennsylvania OCA	36/ Kentucky Attorney General
4/ Florida Office of Public Advocate	37/ North Dakota Public Service Commission
5/ Toms River Fire Commissioner's	38/ Kansas Industrial Group
6/ Iowa Office of Consumer Advocate	39/ City of Witchita
7/ D.C. People's Counsel	40/ Kansas Citizens' Utility Rate Board
8/ Maryland's People's Counsel	41/ NIPSCO Industrial Group
9/ Idaho Public Service Commission	42/ Hawaii Division of Consumer Advocacy
10/ Western Burglar and Fire Alarm	43/ Nevada Bureau of Consumer Protection
11/ U.S. Dept. of Defense	44/ GCI
12/ N.M. State Corporation Comm.	45/ Wisc. Citizens' Utility Rate Board
13/ City of Philadelphia	46/ Vermont Department of Public Service
14/ Resorts International	47/ Oklahoma Corporation Commission
15/ Woodlake Condominium Association	48/ National Assn. of State Utility Consumer Advocates
16/ Illinois Attorney General	49/ Nova Scotia Utility and Review Board
17/ Mass Coalition of Municipalities	50/ Florida Office of Public Counsel
18/ U.S. Department of Energy	51/ Maryland Public Service Commission
19/ Arizona Electric Power Corp.	52/ MCI
20/ Kansas Corporation Commission	53/ Transmission Agency of Northern California
21/ Public Service Comm. – Nevada	54/ Florida Industrial Power Users Group
22/ SC Dept. of Consumer Affairs	55/ Sierra Club
23/ Georgia Public Service Comm.	56/ Our Children's Earth Foundation
24/ Delaware Public Service Comm.	57/ National Parks Conservation Association, Inc.
25/ Conn. Ofc. Of Consumer Counsel	58/ Missouri Office of the Public Counsel
26/ Arizona Corp. Commission	59/ The Utility Reform Network
27/ AT&T	60/ Colorado Office of Consumer Counsel
28/ AT&T/MCI	61/ MD State Senator Paul G. Pinsky
29/ IN Office of Utility Consumer Counselor	62/ MD Speaker of the House Michael Busch
30/ Unitel (AT&T – Canada)	63/ Washington Office of Public Counsel
31/ Public Interest Advocacy Centre	64/ Industrial Customers of Northwestern Utilities
32/ U.S. General Services Administration	65/ Steering Committee of Cities
33/ Michigan Attorney General	66/ City of Chattanooga