



In the Matter of the Application of)
Shepard Hills Water Company for)
an Increase in Rates and Charges.)

Case No. 98-1012-WW-AIR

**STAFF'S REPORT
OF
INVESTIGATION**

**In the Matter of the Application of
Shepard Hills Water Company for
an Increase in Rates and Charges.**

)
)
)

Case No. 98-1012-WW-AIR

**Submitted
to
The Public Utilities Commission**

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)
Shepard Hills Water Company for) Case No. 98-1012-WW-AIR
an Increase in Rates and Charges.)

Craig A. Glazer, Chairman
Ronda Hartman Fergus, Commissioner
Jolynn Barry Butler, Commissioner
Judith A. Jones, Commissioner
Donald L. Mason, Commissioner

To The Honorable Commission:

In accordance with the provisions of R.C. Section 4909.19, the Commission's Staff has conducted its investigation in the above matter and hereby submits its findings in the within Staff Report.

The Staff Report has been jointly prepared by the Commission's Utilities Department and Consumer Services Department.

The Utilities Department sections were prepared under the overall supervision of Kerry M. Stroup. The Accounts and Audits portion of the report was prepared under the supervision of David R. Hodgden, the Rate of Return portion was prepared under the supervision of Stephen E. Puican, and the Rates and Tariffs portion was prepared under the supervision of Douglas R. Maag.

The Consumer Services Department section was prepared under the overall supervision of Deborah Gnann. The Compliance portion of the report was prepared under the supervision of Michael R. Weiss and the Public Interest Center portion of the report was prepared under the supervision of Lisa M. Colosimo.

In accordance with R.C. Section 4909.19, copies of the Staff Report have been filed with the Docketing Division of the Commission and served by certified mail upon the mayors of all affected municipalities and other public officials deemed representative of the service area affected by the application. A copy of said report has also been served upon the utility or its authorized representative. Interested parties are advised that written objections to any portion of the Staff Report must be filed within thirty (30) days of the date of the filing of said report after which time the Commission will promptly set this matter for public hearing. Written notice of the time, place, and date of such hearing will be served upon all parties to the proceeding.

The Staff Report is intended to present for the Commission's consideration the results of the Staff's investigation. It does not purport to reflect the views of the Commission nor should any party to said proceeding consider the Commission as bound in any manner by the representations or recommendations set forth therein. The Staff Report, however, is legally cognizable evidence upon which the Commission may rely in reaching its decision in this matter. (See *Lindsey, et. al. v. PUC, 111 O.S. 6*)

Respectfully submitted,
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BACKGROUND

The Applicant, Shepard Hills Water Company, is an Ohio corporation incorporated in April 1958, under the laws of the state of Ohio. The Applicant provides water service to approximately 297 customers in the area known as Sagamore Hills and Northfield Center Townships, Summit County, State of Ohio.

The Applicant's current rates and charges were established by order of this Commission on January 1, 1995, in Case No. 93-1440-WW-AIR. On July 6, 1998, the Applicant filed an abbreviated application for authority to increase and adjust its rates and charges authorized for supplying water service within its service area. The Applicant requested December 31, 1997, as the date certain and the twelve months ended December 31, 1997, as the test period.

By Entry dated August 6, 1997, the Commission approved the requested test year and date certain and accepted the application for filing as of July 6, 1997.

The Applicant's proposed rates in this proceeding, when applied to the total adjusted test year sales volume, would generate additional revenues of \$14,800. This is an increase of approximately 22.46% over the Staff's adjusted total current revenues.

OPERATING INCOME AND RATE BASE

SCOPE OF INVESTIGATION

The scope of investigation for an application filed pursuant to Standard Filing Requirements, Chapter V, Abbreviated Filing, was designed to determine the reliability and reasonableness of the Applicant's test year information concerning operating income, rate base and other data.

The Staff's investigation included a general review of the Applicant's operation and organization through analyses of PUCO annual reports, other compiled data and numerous conversations with the utility operator's representatives. Actual revenues and expenses recorded on the Applicant's records were analyzed for reasonableness and acceptability for ratemaking purposes. The valuation study included a review of the utility plant records of the Applicant. In addition, the existence and the used and usefulness of the assets were verified through physical inspection of the property. Other analyses were performed by the Staff as considered necessary under the circumstances.

ALLOCATIONS

This case involves the Applicant's entire service area; therefore, no jurisdictional allocations are necessary.

REVENUE REQUIREMENTS

As shown on Schedule A-1, the Staff recommends a revenue increase range of \$13,253 to \$13,774. This represents an increase of 20.11% to 20.91% over test year operating revenue. This determination is based on the Staff's examination of the accounts and records of the Applicant for the twelve months ending December 31, 1997, as summarized in this report and schedules which incorporate the Staff's recommended rate of return, rate base, and adjusted operating income.

RATE BASE

The rate base represents the net value of the Applicant's property and other assets as of the date certain, December 31, 1997, that were used and useful in providing water service to its customers. The Staff's analysis of rate base is divided into Plant In

Service, Depreciation, Construction Work In Progress, Working Capital and Other Rate Base Items.

The Staff's recommended rate base is shown on Schedule B-1. Schedules B-2 through B-6 provide additional support for the Staff's figures.

Plant In Service

The Applicant's plant in service represents the surviving original cost of the plant that is used and useful in supplying water to the Applicant's customers. The Staff verified the existence and the used and usefulness of the plant by conducting a physical inspection of the plant and a review of pertinent data including annual reports to the Commission and prior rate case documents. As a result of its investigation, the Staff finds that the Applicant's records are a reliable source for determining original cost. As indicated on Schedule B-2, the Staff made no adjustments to the Applicant's plant in service.

Depreciation

Depreciation accounting is the process which distributes the original cost of depreciable assets, adjusted for net salvage, over the normal useful life of the property in a systematic and rational manner. For each accounting period, an appropriate accrual rate is applied to each account balance to record and accumulate the depreciation reserve. Each of these elements, as it pertains to this application, is discussed below.

Depreciation Reserve

The Staff has calculated the reserve by account using historical plant records and the prescribed accrual rates from the prior case. The Staff is of the opinion that this calculated depreciation reserve, as adjusted on Schedule B-3, is reasonable and recommends its use for purposes of this proceeding. The Staff's adjustments consist of eliminating the reserve with the adjustments for Contributions In Aid of Construction (CIAC). The Staff's adjustments to the depreciation reserve are calculated on Schedule B-3.1.

Depreciation Accrual Rates and Expense

The Applicant's current accrual rates were prescribed by the Commission in Case No. 93-1440-WW-AIR. The Staff is of the opinion that these accrual rates are still proper and adequate, and recommends their continued use for book and ratemaking purposes.

The Staff's calculation of depreciation expense, based on the jurisdictional plant in service balances at date certain and the accrual rates discussed above, is shown on Schedule B-3.2. The Staff has adjusted the calculated depreciation

expense to exclude depreciation expense related to CIAC. The calculation of this adjustment is shown on Schedule B-3.2a.

Construction Work In Progress (CWIP)

The Applicant did not request an allowance for CWIP in this case and, as indicated on Schedule B-4, the Staff recommends none.

Working Capital

Working Capital has been generally defined as the average amount of capital provided by investors in the company, over and above the investment in plant and other specifically identified rate base items, to bridge the gap between the time that expenditures are required to provide service and the time collections are received for this service.

The Staff's working capital calculation is based on a formula comprised of several components. The formula contains a revenue lag allowance which was calculated from the Applicant's quarterly pre-billing report, and an expense lag allowance which was calculated using Applicant's actual expense vouchers. There is no materials and supplies component in this case as the Applicant does not maintain a materials and supplies inventory for repair purposes.

The Staff's calculation of the working capital allowance for materials and supplies is shown on Schedule B-5.

Other Rate Base Items

As shown on Schedule B-6, the Staff reduced the rate base by the date certain amount of the deferred taxes resulting from tax accelerated depreciation and contributions in aid of construction (CIAC). The Staff has increased the CIAC balance by \$2,343, to reflect capital improvements made to the plant that was provided for through the extraordinary maintenance expense adjustment in Case No. 93-1440 WW-AIR.

OPERATING INCOME

The Applicant's test year operating income consists of twelve months of actual data covering the period January 1, 1997, to December 31, 1997. The Staff adjusted the Applicant's test year operating income as required to render it appropriate as a basis for setting rates.

The Staff's proforma operating income is the Staff's adjusted test year operating income modified to reflect the Applicant's proposed increase in revenue, Ohio gross receipts tax, and federal income tax.

Schedules C-1 and C-2 present the Staff's determination of operating income. The calculations, methodologies and rationale used to develop the Staff's adjusted and proforma operating income are detailed on Schedules A-1.1, C-1.1, C-3.1 through C-3.11 and C-4.

Proforma Adjustments

Schedule C-1.1 presents an increase in operating revenues based on the Applicant's proposed rates and the number of customers shown on Schedule C-1.1a. Schedule C-1.1 also shows the associated increases in Ohio gross receipts tax, and federal income tax.

Current Adjustments

The Staff's recommended adjustments to operating income are as follows:

Metered Sales Revenue

The Applicant's test year included actual receipts collected during 1997. The Staff adjusted metered sales revenue to include actual consumption for 1997. The Staff's adjustment is shown on Schedule 3.1.

Electric Expense

The Staff adjusted electric expense by \$1,718, to annualize the additional cost to operate the high service pumps. The Staff's adjustment is presented on Schedule C-3.2.

Water Treatment Expense

The Staff adjusted water treatment expense by \$3,457, to include the annual cost of adding phosphates. The Staff's adjustment is presented on Schedule C-3.3.

Administrative and General Salaries

The Applicant's test year included \$6,000, for engineering and executive oversight services for a partner of the company who passed away in 1996. The Applicant also paid \$10,800, to Reserve Realty for office space and staff, billing, collecting, accounts payable, and storage of records. The Staff eliminated \$6,000, and reclassified \$10,800 to outside services to compensate Reserve Realty. The Staff's adjustment is presented on Schedule C-3.4.

Outside Services Expense

The Applicant's outside services included meter reading, water testing, accounting, legal & professional and maintenance expenses. The Staff reclassified the maintenance expenses to account 650 repairs of water plant. The Staff made two other adjustments to outside services. The salary of the maintenance man who is on call 24-hours a day was increased from \$10,800 to \$12,000 and the Staff included \$6,000 for a class 1 operator as mandated by the Ohio Environmental Protection Agency. The Staff's adjustment is presented on Schedule C-3.5.

Repairs and Maintenance Expense

The Staff excluded the dollars associated with maintenance personnel because it is the Staff's opinion that the \$12,000, salary included in outside services expense is reasonable compensation for the work performed. The Staff's adjustment reflects repairs and maintenance cost performed by someone other than Applicant's personnel. Staff's adjustment is presented on Schedule C-3.6.

Extraordinary Maintenance Expense

The Applicant's test year expenses did not reflect engineering fees, the installation of back-up pump, high service pump, its related pressure switch, and tank cleaning and modification. These improvements either pertain to Consumer Services Department or OEPA recommendations and requirements. The Staff's adjustment reflects a three-year amortization of these costs and is shown on Schedule 3.7. Refer to the Consumer Services Department's section of the Staff Report for further discussion.

Rate Case Expense

The estimated rate case expense for this proceeding is \$2,500. The Staff is of the opinion this is a reasonable amount for this rate case, and further recommends the use of a three-year amortization period. The Staff's adjustment is presented on Schedule C-3.8.

Depreciation Expense

Depreciation expense was adjusted to reflect the Staff's recommended plant in service as of the date certain and the Staff's recommended accrual rates. This adjustment is provided on Schedule C-3.9, with supporting calculations shown on Schedule B-3.2.

Taxes Other Than Income Tax

Taxes other than income taxes were adjusted to reflect the proper base and the latest known tax rates. For example, Ohio gross receipts taxes were calculated to reflect taxes based on test year revenue rather than on the basis of total

receipts for a different fiscal period. Schedule C-3.10 provides a summary of the calculated taxes and the resultant tax adjustment. Supporting calculations are provided on Schedules C-3.10a through C-3.10c.

Federal Income Tax Expense

The Staff computed test year federal income taxes to reflect the recommended adjustments to operating expenses. This computation also reflects the actual test year interest expense and the normalization of tax accelerated depreciation on an additions forward basis.

Schedule C-3.11 presents the Staff's income tax adjustment. Supporting calculations are shown on Schedule C-4.

RATE OF RETURN

Historically, public utility regulation in Ohio (and most of the country) has been based on a rate of return on rate base approach. The Staff has been advised by counsel that Ohio has retained the rate or return on the rate base method in setting rates in its revised statutes, Amended Substitute Senate Bill No. 94. In fact, there is express language that the Commission shall determine:

"A fair and reasonable rate of return to the utility on valuation as determined in Division (A)(1) of this Section." [O.R.C. Section 4909.15(A)(2)].

"The dollar annual return to which the utility is entitled by applying the fair and reasonable rate of return as determined under Division (A)(2) of this Section to the valuation of the utility determined under (A)(1) of this section." [O.R.C. Section 4909.15(A)(3)].

These statutes are further modified since the fair and reasonable rate of return must be determined by the Commission with reference to a cost of debt equal to the actual embedded cost of debt of such public utility. [O.R.C. Section 4909.15(D)(2)(a)].

In determining a fair rate of return, three economic criteria were established in the landmark Bluefield and Hope cases. These cases establish that the rate of return should be sufficient to enable the regulated utility to: (1) maintain its credit standing and financial integrity; (2) attract new capital at reasonable costs; and (3) commensurate with returns being earned on investments attended by corresponding risk. However, they also indicate that a utility is not entitled to speculative return. These criteria simply acknowledge the basic economic realities. A regulated company must be able to generate sufficient revenues from the rates set by the regulatory agency to cover all costs (operating expenses and capital costs) incurred under prudent, honest, and efficient management. The regulatory commission must, therefore, give the investor the opportunity to receive fair compensation for his investment in a utility.

The Staff has reviewed the financial condition of the Applicant and believes that under the prevailing interest rates, a rate of return in the range of 10.0% to 11.0% is fair and reasonable.

RATES AND TARIFFS

INTRODUCTION

In this proceeding, the Shepard Hills Water Company requests authority to increase its rates and charges for general water service to all classes of customers. Applicant is a small water company providing utility service to approximately 297 customers. Applicant's current water rates were established by Commission Entry in Case No. 93-1440-WW-AIR, and became effective January 1, 1995. Applicant now requests an increase in rates and charges that will generate additional revenue of \$15,000, representing approximately a 22.47% increase to the current rates.

Energy and Water Staff has investigated the rate and tariff matters proposed by the Applicant. The results of Staff's investigation are reported herein. It is the Staff's intent to provide analysis with respect to the acceptability and reasonableness of the revenue recovery mechanisms contained in Applicant's proposed tariff. The specific rates and charges referenced as Staff proposals in this section were developed to generate Applicant's proposed revenue requirement. Such rates and charges may require adjustment to generate the revenue requirement authorized by the Commission. Typical customer bills under Applicant-proposed and Staff-proposed rates are presented at the end of this section.

TARIFF ANALYSIS

Dishonored Checks

Staff finds that a dishonored check charge is appropriate and should reflect the actual cost incurred by the Company to process such checks. The cost of processing dishonored checks should not be recovered from ratepayers in general. The result of such checks is reflected in the utility's cash flow requirements as follows:

- (1) Additions to working capital;
- (2) Interest expense associated with short term borrowing; and
- (3) Labor and non-labor expenses in processing the returned checks.

The Applicant's tariff currently permits a \$15 dishonored check charge, and Applicant is not proposing to increase this charge. Applicant did not respond to Data Request No. 7 (A) or (B), which requested the number of dishonored checks during the test year, and Company costs related to the charge, respectively. Staff,

therefore, recommends that the dishonored check charge remain at its current rate, which is consistent with the industry standard.

Late Payment Charge

Applicant's late payment provision subjects bills, remaining unpaid 15 days after becoming payable, to a 5% late payment charge. Such late payment charge is not compounded for future delinquencies and is not imposed in any month in which payments exceed current charges. Staff finds this provision to be consistent with the industry standard and Commission policy, and recommends approval.

Payment Due Date

Data Request No. 9 (B) asked how much time the Company provided a customer to pay a bill. The response was 2 weeks after mailing. Applicant's tariff states that the customer will be given 15 days to pay the bill. Staff recommends that Applicant revise its policy and permit a customer 15 days after mailing of the bill to pay the amount.

Customer Bill Form

Applicant did not provide a copy of its bill form as requested in Data Request No. 9 (D). Alternately, Staff reviewed the form attached to its tariff. Staff notes that the area code for the Company has changed from (216) to (330). Staff also finds that the bill form does not state the dates of service covered by the bill. All other aspects of the bill form conform to Ohio Administrative Code (O.A.C.) 4901:1-15-25. Staff recommends that Applicant amend its bill form when it reorders forms to correct the area code and state the dates of service covered by the bill. The revised form should be reviewed by Staff prior to filing the form with the Commission in this docket.

Meter Test/Reconnect/Disconnect

Staff requested the Company's itemized costs to test a meter, reconnect a customer, and disconnect a customer, through Data Request Nos. 2 (D), 5 (B), and 6 (C) respectively. The answer for each question was: \$25 service charge. The costs were neither itemized nor verifiable. Applicant is not proposing to increase these miscellaneous charges. The current tariffed charges are \$10 for metering testing, \$10 reconnection fee and no disconnection fee. Applicant stated in Data Request No. 6 (A) that it had a \$10 disconnection charge.

While the Applicant neither disconnected or reconnected any customer during the test year, it is important that Applicant know what the Commission has authorized it to charge.

Staff recommends that the meter testing charge and reconnection fee remain at \$10 and no disconnection charge be instituted.

Application for Service/Customer Deposits

Applicant does not have an application form nor does it require customer deposits. Potential customers do not complete an application form but rather call the Company to request service and give credit information. The tariff states Applicant's policy on applying for service but is silent on its no-deposit requirement. Staff recommends that the Applicant state its no-deposit policy in its tariff.

RATES AND REVENUE ANALYSIS

General guidelines or objectives are followed in Staff's review of rate schedules and designs. The applicable schedules should provide the utility the opportunity of recovering the authorized revenue. The various schedules should represent a reasonable distribution of revenue among the various customer groups. The particular schedule should be equitable and reasonable to all customers within a group. The schedules should provide for customer understanding, continuity of rates, and minimal customer impact.

The rate design criteria are to be viewed as a package, in that they are interrelated. Although each item can be separately identified and applied to rate schedule determinations, no single standard is overriding in determining proper rate design. The rate schedules which comprise a particular utility's tariff should provide the opportunity for the recovery of expenses found proper in the course of a regular proceeding. If the rate schedule is designed on the basis of cost causation, it will provide for expense recovery in the long term, given changes in customer usage characteristics. Normally, and to the extent sufficient information is available, cost of service studies and related expense analysis are necessary to determine the appropriate level of revenue to be generated and appropriate recovery of such revenue.

The rate schedules should be designed to be equitable and reasonable to the customers served pursuant to their applicability. This criterion involves several considerations. The schedules should, to the extent practicable, be predicated upon the costs associated with a particular service rendered. Customers receiving like services should experience the same charges and provisions. Also, differences in the applicable charges should be representative of differences in costs.

From a practical rate design standpoint, absolute equality between costs and revenue may be difficult to achieve in the short term. While it may be viewed as equitable to set rates at costs, if there is a substantial divergence from the current

rates, the resulting impact on individual customers may be viewed as unreasonable. While it is the Staff's position that rates should reflect costs, it is also important to consider the continuity associated with the current and proposed pricing structures. This may result in movement towards more closely aligning revenues with costs, rather than an absolute match at a particular time period.

When employing these standards to develop and design a rate, the results should be understandable to the customers billed under the schedule.

Revenue Analysis

Shepard Hills Water Company is a small water company, providing metered service to approximately two hundred ninety-seven (297) customers in Summit County, Ohio, of which all are residential except for a commercial gas station. The entire customer base is metered. Given that the Company's customer base is small and is primarily residential, Staff does not find it necessary to require the company to prepare a cost of service study. In this proceeding, Applicant has requested an approximate 22.47% increase in its rates which would generate annual revenue of \$81,741.

The following chart illustrates Applicant's current and proposed revenue. While the Company serves a commercial gas station, usage by this customer is predominately residential in nature. Staff has categorized the Company's service as all residential.

Applicant's Current and Proposed Annual Revenue - Total Company

<u>Class of Service</u>	<u>Current Revenue</u>	<u>Proposed Revenue</u>	<u>Revenue Increase</u>	<u>Percent Increase</u>
Residential	\$ 66,741	\$ 81,741	\$ 15,000	22.47%

Rate Analysis

Applicant's current and proposed rate structure, as shown in the chart below, consists of a customer charge and a single block usage rate. Applicant is proposing to apply the bulk of the increase to the customer charge.

Applicant's Current and Proposed Rates

<u>Level of Usage (cubic feet)</u>	<u>Current Rate/Qtr.</u>	<u>Proposed Rate/Qtr.</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
Customer charge	\$15.42	\$18.89	\$3.47	22.50%
Each 100 cubic feet	.01577	.01931	.0035	22.19

Customer Charge Calculation

The following chart illustrates Staff's calculation of the quarterly customer charge for a 5/8" meter. Staff used data obtained from Accounts and Audits Staff to calculate the customer charge. If the Commission authorized revenue is different from that requested by the Applicant, Staff's recommended customer charge should not be altered.

Calculation of Customer Charge for 5/8" Meter

	<u>Company Value</u>
<u>Plant Accounts</u>	
345 Services (\$17,490 CIAC)	\$ 0
346 Meters	2,882
347 Meter Installations	0
Sub-Total	\$ 2,882
Less Related Depreciation Reserve:	
346 Meters	(1,269)
347 Meter Installations	(0)
Total Plant Accounts	\$ 1,613
Mid-range Recommended Rate of Return	10.5%
Return on Plant	\$ 169
<u>Operation and Maintenance Expense Accounts</u>	
<u>General Expenses</u>	
682 Administrative and General Salaries	\$ 24,486
Return on Plant	\$ 169
O&M Expense	24,486
Related Depreciation Expense	82
Annual Customer Costs	\$ 24,737
Total Quarterly 5/8" Meters (297 x 4)	1,188
Quarterly Customer Charge (Annual Customer Costs/Total Quarterly 5/8" meters)	\$ 20.82

Current and Staff's Recommended Rates

<u>Level of Usage (cubic feet)</u>	<u>Current Rate/Qtr.</u>	<u>Recommended Rate/Qtr.</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
Customer charge	\$15.42	\$20.82	\$5.40	35.02%
Each 100 cubic feet	.01577	.018874	.0031	19.66

Staff recommends a customer charge and a single usage block. Staff recommends that the usage block continue to be per cubic foot rather than per 100 cubic feet. Staff recommends that any difference between the amount of total Commission authorized revenue and revenue recovered from the Staff proposed customer charge be recovered in the usage charge.

Typical Bill Comparison

<u>Level of Usage- CCF</u>	<u>Current Bill</u>	<u>Applicant Proposed</u>	<u>Staff Proposed</u>	<u>Dollar Increase</u>		<u>Percent Increase</u>	
				<u>Applicant</u>	<u>Staff</u>	<u>Applicant</u>	<u>Staff</u>
0	\$ 15.42	\$ 18.89	\$ 20.82	\$ 3.47	\$ 5.40	22.50%	35.02%
5	23.31	28.55	30.26	6.95	5.24	22.50	29.82
10	31.19	38.20	39.69	7.01	8.50	22.48	27.25
15	39.08	47.86	49.13	8.78	10.05	22.47	25.72
20	46.96	57.51	58.57	10.55	11.61	22.47	24.72
*24.72	54.40	66.62	67.48	12.22	13.08	22.46	24.04
30	62.73	76.82	77.44	14.09	14.71	22.46	23.45
40	78.50	96.13	96.32	17.63	17.82	22.46	22.70
50	94.27	115.44	115.19	21.17	20.92	22.46	22.19
75	\$ 133.70	\$ 163.72	\$ 162.38	\$ 30.02	\$ 28.68	22.45%	21.45%

*Average quarterly residential consumption

CONSUMER SERVICES DEPARTMENT

The Shepard Hills Water Company provides water service to approximately 296 residential customers and one commercial customer in Sagamore Hills, Ohio.

The Compliance Division of the Consumer Services Department routinely inspects Shepard Hills Water Company's facilities and administrative operation to determine whether it is providing adequate service. By inspecting the company's source of supply, plant, and distribution-related facilities, as well as its associated operating and maintenance records, staff can determine the adequacy of the operation and recommend changes that will maintain and, when necessary, improve the delivery of water. Inspecting the administrative operation, including how the company applies its tariff, allows the staff to determine tariff compliance and service quality. The staff's investigation relative to this case included system observations, discussions with company personnel, customer interviews, a review of plant operating records, and a staff-issued customer survey.

Source of Supply

Under the Joint Stipulation and Recommendation in its last rate application, Case No. 93-1440-WW-AIR, Shepard Hills was to do whatever necessary to optimize Well No. 2's production and quality by November 1994. Although the well was deepened, cleaned via an acidizing process, and equipped with a new submersible pump, the company did not complete the work until the fall of 1995, because, it claimed, it did not have the necessary funds and could only use the requisite heavy equipment in the well field during extended dry periods. Since the last rate case, the company has also raised the casing on well No. 1 and installed stainless steel screens and new aluminum well casing caps on all four wells.

Shepard Hills states that it will complete work this year on the flush valves and sampling taps which the Ohio Environmental Protection Agency (OEPA) recently advised it to install for all its wells.

In Shepard Hills' prior rate case, the commission ordered it to immediately either install a permanent water level monitor on a representative well or purchase portable well monitoring equipment. The company was also to develop the baseline data and appropriate well monitoring schedules for normal and drought conditions, as prescribed by the Ohio Emergency Management Agency's "Ohio Suggested Drought Response Actions." Since Shepard Hills has failed to meet both requirements, the staff recommends the commission order the company's compliance within 90 days of the opinion and order in this case.

Plant Modifications and Pressure

The company was ordered in the previous case to upgrade its electrical service and improve system pressure by December 1, 1994. A licensed electrician evaluated the electrical system and found no modifications were necessary. System pressure, however, did not improve until February 1998 when a larger high-service pump was put in service and a pressure switch was installed to control the pump's operation (and for system pressure-related safety purposes). The company is modifying the plumbing to allow the two previous high-service pumps to be used for backup.

Although the staff conducted numerous meetings with Shepard Hills and the OEPA to try to expedite the submittal and approval of the company's OEPA-mandated plans for the new pump and for the disinfectant and phosphate treatment modifications implemented several year prior, the company did not submit these plans until late 1997. The OEPA subsequently approved the plans in January 1998.

Storage Tanks

All four 20,000-gallon steel in-ground storage tanks were inspected and cleaned in autumn 1993, and in accordance with Ohio Administrative Code Section 4901:1-15-11 (B)(6), were again inspected and cleaned in August 1998. As a condition of approving the company's phosphate plans, the OEPA ordered Shepard Hills to relocate the influent line away from the effluent line in each tank by May 1998 to ensure ultimate disinfectant and phosphate contact time. Although the company has now finished putting in the valves, it again claimed insufficient funds kept it from completing the work on time. The OEPA also recently advised the company to install isolation valves for tanks three and four. The company found, however, during the August tank excavation, that the influent lines were already located away from the effluent line.

Additional OEPA Requirements

The OEPA approved Shepard Hills' chlorine conversion, phosphate feed, and high-service pump plans on the condition that it submits proposals on system reliability and high-service pump operation to the OEPA's Northeast District Office by March 1, 1999.

For system reliability, the OEPA suggested the company consider back-up generation, dual electrical feeds, automatic interconnection with another water system, and elevated storage. Shepard Hills will probably propose an LP backup generator, which it estimates can be installed for under \$2,000.

Since the OEPA believes the company's new high-service pump is too small to meet peak demands, the staff recently provided the addresses of customers who reported poor pressure in staff's customer survey so the agency could determine where to conduct pressure recordings. The OEPA suggested Shepard Hills consider

elevated storage, pressure tanks to eliminate continuous pump operation, or controls to allow the backup pumps to engage with the primary pump during peak demand. The company must submit the applicable detailed plans for these improvements no more 30 days after the OEPA issues its final comments on the proposals.

Valve Inspection Program, Flushing Notification, Distribution Maps

As ordered in the previous case, the company has instituted a valve-working program in accordance with OAC Section 4901:1-15-11(B)(5). Plant valves and critical valves are inspected annually by operating them through their full cycle. Although local distribution main valves are only required to be inspected and worked biennially, the company works them semi-annually to improve the results of its flushing program. The staff recommends the commission order the company to replace the Springmont Circle flush valve, which is inoperable and needs to be replaced, before the fall 1998 system flush.

As the staff recommended in Shepard Hills' last rate case, the company has stopped using signs to make customers aware of flushings and has been notifying them by mail. The customer survey results which appear later in this section show that the customers prefer this form of notification.

Also as ordered in the previous case, the company is creating a map that identifies all distribution facilities, including the location and description of mains and valves, and the location of the curb stops.

Daily Operations/Maintenance Logs, Unaccounted-for Water

As the commission ordered in the previous case, Shepard Hills is maintaining a daily operations log illustrating the time the plant is visited, the pressure readings, and the water pumped. But the company's daily operator has not, as the commission's ordered, entered in the maintenance log all the maintenance and construction-related activity that the company and its contractors have performed. Staff recommends the commission order Shepard Hills to immediately comply with OAC Section 4901:1-15-15(E) (1), (2) & (3), which requires that the company record in the logs every aspect of its operation in sufficient detail to substantially reproduce the daily history.

The company reported that its 1997 unaccounted-for water was a respectable 11.5%.

Company Quarterly Performance Reports (CQPR)

The section is developing a new water/wastewater facility database containing field staff compliance reports, customer survey data, and key information on company performance to enable it to more uniformly and consistently monitor the 54

regulated water and wastewater utilities' overall operation. A significant component of the database will derive from CQPRs, which comprise basic plant performance, an ongoing unaccounted-for water percentage, and information on flushing, main breaks and outages, disconnections, and customer complaints and inquiries. To date, the section has only requested information from the larger, more technically sophisticated companies; however, it will eventually request CQPRs from all jurisdictional water and wastewater utilities, including Shepard Hills. The staff is developing forms to assist small companies provide the necessary information, and it recommends that once it has developed and explained the forms to Shepard Hills, the commission order the company to promptly provide all of the requested information.

Tariff Compliance Status

The staff's routine monitoring found that the company has appropriately administered all aspects of its tariff.

Company Performance

Despite the 1993 staff report, which was very critical of Shepard Hills' overall management, the company's numerous missed compliance due dates outlined in this section demonstrate its continuing indifference to its business and regulatory obligations. The staff has had to assist the company on almost every aspect of its plant operation and regulatory duties. The OEPA recently required Shepard Hills to hire a licensed operator--without whom many of the recent improvements would not have occurred. It is essential that the company improve in all aspects of its operation. To ensure this progress, staff recommends that the commission order the company, beginning thirty days from the opinion and order in this case, to meet with staff every three months at the commission's office to report on and discuss the various aspects of its utility operation.

Public Interest Center (PIC) Customer Contacts

From January 1, 1996 through August 31, 1998, Shepard Hills' customers contacted PIC nine times.

Two contacts were billing questions and one contact pertained to a high bill. Two contacts were requests for information about the company or the rules governing water companies. PIC referred two contacts back to the company since they were seeking account information. Another two callers, not requiring staff intervention, were referred back to the company after the PIC investigator educated the caller on how to best represent his/her needs to the company.

Customer Survey

In May 1998, the staff issued a water quality and customer service survey to all of the company's then 297 customers. The responses on the 139 completed questionnaires (which represent the feelings of 47% of the customers) show only marginal satisfaction with the water quality but a somewhat higher satisfaction with the service.

The questions and the corresponding numbers with percentages of the various customer responses appear below. The percentages are the number of customers who responded to each category.

SHEPARD HILLS WATER COMPANY

May 1, 1998, Customer Survey

297 Questionnaires Issued / 139 Questionnaires Returned / 132 Addresses Present

- (1) I would rate my overall water quality as: (2) I would rate my water pressure as:

Excellent	#	%
1	9	6.47%
2	33	23.74%
3	49	35.25%
4	24	17.27%
5	23	16.55%

Poor

Excellent	#	%
1	33	23.74%
2	36	25.90%
3	39	28.06%
4	17	12.23%
5	12	8.63%

Poor

- (3) During normal operation (non-flushing/main break occasions, etc.), how often do you experience discolored water?

Never	#	%
1	36	25.90%
2	47	33.81%
3	24	17.27%
4	22	15.83%
5	7	5.04%

Frequently

- (4) I currently utilize in my home:

Softening System	23	Point-of-Use Water Filter	34
Whole-House Water Filter	16	None	76

- (5) If you called the company, was your call answered promptly and was your concern addressed in a professional manner?

<u>Did not call:</u>	<u>Promptly Answered:</u>	<u>Professional Manner:</u>
64	Yes 64	Yes 50
	No 7	No (uninformed) 0
		No (indifferent) 2
		No (satisfaction) 11
No (rude or curt)		2

- (6) The company's response time to service call requests (e.g., meter re-read) and emergencies (e.g., main break) is:

<u>Service Call Response:</u>			<u>Emergency Response:</u>		
No such experience 101			No such experience 109		
Excellent	#		Excellent	#	
	1	11		1	5
	2	11		2	3
	3	4		3	4
	4	5		4	1
Poor	5	2	Poor	5	3

- (7) In your community, which utility services charge rates that you consider reasonable for the value of service currently received?

Gas	83	Phone	72	Water	66
Electric	77	Cable	20	Sewer	10

- (8) If you would like to receive information on topics like water quality, rates, payment options, etc., make your selection from the following list, indicate how you would like to receive the information by choosing a number from the Communication Methods, and place it before the issue.

	<u>Water Quality</u> 62	<u>Boil Advisories</u> 51
Meetings with company officials	14	3
Bill insert	36	13
Radio	0	1
Newspaper	3	1
Television	2	16
Other	6	16
No preference	1	1
	<u>Rate Information</u> 44	<u>Routine Flushing</u> 51
Meetings with company officials	2	0
Bill insert	36	37
Radio	0	0
Newspaper	1	3
Television	1	2
Other	3	8
No preference	1	1

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR

	<u>Billing Options</u> 33	<u>Conservation Info.</u> 37
Meetings with company officials	0	1
Bill insert	31	21
Radio	0	0
Newspaper	0	10
Television	0	1
Other	13	
No preference	1	1

(9) Please express any comments or suggestions about your water service:

Rates (negative)	6	Pressure (positive)	5
Water quality (positive)	1	Pressure (negative)	3
Water quality (negative)	27	Reliability	0
Service (positive)	0	Need to contact	1
Service (negative)	9	No comment	74

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Revenue Requirements

	<u>Lower Bound</u>	<u>Upper Bound</u>
(1) Rate Base (a)	\$ 42,169	\$ 42,169
(2) Adjusted Operating Income (b)	(6,513)	(6,513)
(3) Rate of Return Earned (2) ÷ (1)	(15.44)%	(15.44)%
(4) Rate of Return Recommended (c)	10.00%	11.00%
(5) Required Operating Income (1) x (4)	4,217	4,639
(6) Income Deficiency (5) - (2)	10,730	11,152
(7) Gross Revenue Conversion Factor (d)	1.235140	1.235140
(8) Revenue Increase Required (6) x (7)	13,253	13,774
(9) Revenue Increase Recommended	13,253	13,774
(10) Adjusted Operating Revenue (b)	65,887	65,887
(11) Revenue Requirements (9) + (10)	\$ 79,140	\$ 79,661
(12) Increase Over Current Revenue (9) ÷ (10)	20.11%	20.91%

- (a) Staff's Schedule B-1
- (b) Staff's Schedule C-2
- (c) Refer to Rate of Return Section
- (d) Staff's Schedule A-1.1

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Calculation of Gross Revenue Conversion Factor

(1)	Gross Revenue	100.000000
(2)	Uncollectibles (1) x 0.000000% (a)	_____
(3)	Net Revenue (1) - (2)	100.000000
(4)	Ohio Gross Receipts Tax (3) x 4.750000% (b)	<u>4.750000</u>
(5)	Income Before Federal Income Taxes (3) - (4)	95.250000
(6)	Federal Income Taxes (5) x 15% (c)	<u>14.287500</u>
(7)	Operating Income Percentage (5) - (6)	80.962500
(8)	Gross Revenue Conversion Factor (1) ÷ (7)	<u><u>1.235140</u></u>

(a) Staff's Schedule C-1.1

(b) Calculation to Reflect Staff's Recommended Mid-Point Revenue Increase:

(1)	Increase in Ohio Gross Receipts Tax	\$ 703
(2)	Staff's Recommended Revenue Increase (Schedule A-1)	<u>14,800</u>
(3)	Uncollectibles	
(4)	Net Revenue Increase	\$ 14,800
(5)	Effective Ohio Gross Receipts Tax (1) ÷ (4)	<u>4.750000%</u>

(c) Calculation to Reflect Staff's Recommended Mid-Point Revenue Increase:

(1)	Net Revenue Increase (Footnote (b))	\$ 14,800
(2)	Increase in Ohio Gross Receipts Tax	<u>703</u>
(3)	Net Revenue Increase (1) - (2)	14,097
(4)	Increase in Federal Income Taxes	\$ 2,115
(5)	Effective FIT Rate (4) ÷ (3)	<u><u>15.000000%</u></u>

SCHEDULE B-1

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Rate Base Summary
As of Date Certain, December 31, 1997

(1) Plant in Service (a)	\$	218,723
(2) Depreciation Reserve (b)		<u>33,795</u>
(3) Net Plant in Service (1) - (2)		184,928
(4) Construction Work in Progress (c)		
(5) Working Capital Allowance (d)		4,122
(6) Other Rate Base Items (e)		<u>(146,881)</u>
(7) Rate Base (3) Thru (6)	\$	<u>42,169</u>

- (a) Staff's Schedule B-2
- (b) Staff's Schedule B-3
- (c) Staff's Schedule B-4
- (d) Staff's Schedule B-5
- (e) Staff's Schedule B-6

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Calculation of Jurisdictional Plant in Service

<u>Acct. No.</u>	<u>Description</u>	<u>Applicant's Unadjusted</u> (a)	<u>Adjustments</u> (b)	<u>Staff's Adjusted Jurisdictional</u> (c)
	<u>Intangible Plant:</u>			
301	Organization	\$ 900	\$	\$ 900
302	Franchises & Consents			
303	Misc. Intangible Plant	_____	_____	_____
	Total Intangible Plant	900		900
	<u>Source of Supply Plant:</u>			
310	Land & Land Rights	4,050		4,050
311	Structures & Improvements			
312	Collecting & Impounding Res.			
313	Lake, River & Other Intakes			
314	Wells & Springs	7,335		7,335
316	Supply Mains	_____	_____	_____
	Total Source of Supply Plant	11,385		11,385
	<u>Pumping Plant:</u>			
320	Land & Land Rights			
321	Structures & Improvements	4,953		4,953
323	Other Power Prod. Equip.			
325	Electric Pumping Equip.	15,731		15,731
326	Diesel Pumping Equip.			
328	Other Pumping Equip.	1,194	_____	1,194
	Total Pumping Plant	21,878		21,878
	<u>Water Treatment Plant:</u>			
330	Land & Land Rights			
331	Structures & Improvements			
332	Water Treatment Equip.	11,055	_____	11,055
	Total Water Treatment Plant	11,055		11,055
	<u>Transmission & Distribution Plant:</u>			
341	Structures & Improvements			
342	Distr. Reser. & Standpipes	7,184		7,184
343	Trans. & Distr. Mains	127,146		127,146
345	Services	17,490		17,490
346	Meters	2,882		2,882
347	Meter Installations			
348	Hydrants			
349	Other T&D	14,002	_____	14,002
	Total Transmission & Distribution Plant	\$ 168,704	\$	\$ 168,704

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Calculation of Jurisdictional Plant in Service

<u>Acct. No.</u>	<u>Description</u>	<u>Applicant's Unadjusted</u> (a)	<u>Adjustments</u> (b)	<u>Staff's Adjusted Jurisdictional</u> (c)
	<u>General Plant:</u>			
389	Land & Land Rights	\$	\$	\$
390	Structures & Improvements			
390	Limited Term Utility Plant			
391.1	Office Furniture			
391.2	Computer Equip. & Software			
391.3	Office Machines & Equip.			
392	Transportation Equip.			
393	Stores Equip.			
394	Tools, Shop, & Garage Equip.			
395	Laboratory Equip.			
396	Power Operated Equip.			
397	Communication Equip.			
398	Miscellaneous Equip.	<u>4,801</u>	_____	<u>4,801</u>
	Total General Plant	4,801		4,801
	Total Water Plant in Service	<u>\$ 218,723</u>	<u>\$</u> _____	<u>\$ 218,723</u>

- (a) Applicant's Records
- (b) Staff's Schedule B-2.1
- (c) Columns (a) + (b)

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Calculation of Jurisdictional Depreciation Reserve

<u>Acct. No.</u>	<u>Description</u>	<u>Applicant's Unadjusted</u> (a)	<u>Adjustments</u> (b)	<u>Staff's Adjusted Jurisdictional</u> (c)
	<u>Intangible Plant:</u>			
301	Organization	\$	\$	\$
302	Franchises & Consents			
303	Misc. Intangible Plant	_____	_____	_____
	Total Intangible Plant			
	<u>Source of Supply Plant:</u>			
310	Land & Land Rights			
311	Structures & Improvements			
312	Collecting & Impounding Res.			
313	Lake, River & Other Intakes			
314	Wells & Springs	2,710	(162)	2,548
316	Supply Mains	_____	_____	_____
	Total Source of Supply Plant	2,710	(162)	2,548
	<u>Pumping Plant:</u>			
320	Land & Land Rights			
321	Structures & Improvements	1,720		1,720
323	Other Power Prod. Equip.			
325	Electric Pumping Equip.	9,253	(60)	9,193
326	Diesel Pumping Equipment			
328	Other Pumping Equip.	366	_____	366
	Total Pumping Plant	11,339	(60)	11,279
	<u>Water Treatment Plant:</u>			
330	Land & Land Rights			
331	Structures & Improvements			
332	Water Treatment Equip.	4,303		4,303
	Total Water Treatment Plant	4,303		4,303
	<u>Transmission & Distribution Plant:</u>			
340	Land & Land Rights			
341	Structures & Improvements			
342	Distr. Reser. & Standpipes	7,176		7,176
343	Trans. & Distr. Mains	62,778	(62,778)	(0)
345	Services	13,817	(13,817)	(0)
346	Meters	1,269		1,269
347	Meter Installations			
349	Other Trans & Dist. Plant	2,660	_____	2,660
	Total Transmission & Distribution Plant	\$ 87,700	\$ (76,595)	\$ 11,105

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Calculation of Jurisdictional Depreciation Reserve

<u>Acct. No.</u>	<u>Description</u>	<u>Applicant's Unadjusted</u> (a)	<u>Adjustments</u> (b)	<u>Staff's Adjusted Jurisdictional</u> (c)
	<u>General Plant:</u>			
389	Land & Land Rights	\$	\$	\$
390	Structures & Improvements			
390	Limited Term Utility Plant			
391.1	Office Furniture			
391.2	Computer Equip. & Software			
391.3	Office Machines & Equip.			
392	Transportation Equip.			
393	Stores Equipment			
394	Tools, Shop, & Garage Equip.			
395	Laboratory Equip.			
396	Power Operated Equip.			
397	Communication Equip.			
398	Miscellaneous Equip.	<u>4,561</u>	_____	<u>4,561</u>
	Total General Plant	4,561		4,561
	Total Water Depreciation Reserve	<u>\$ 110,613</u>	<u>\$ (76,818)</u>	<u>\$ 33,795</u>

- (a) Applicant's 1997 Annual Report
- (b) Staff's Schedule B-3.1
- (c) Columns (a) + (b)

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Summary of Staff's Adjustments to Reserve

<u>Acct. No.</u>	<u>Account Description</u>	<u>Staff's CIAC Plant Adjustment</u> (a)	<u>Age</u> (b)	<u>Current Accrual Rate</u> (c)	<u>Reserve Adjustment</u> (d)
314	Wells & Springs	\$ (1,983)	4.50	1.82%	\$ (162)
325	Electric Pumping Equipment	(360)	5.00	3.33	(60)
343	Trans. & Distribution Mains	(127,146)	39.50	1.25	(62,778)
345	Services	<u>(17,490)</u>	39.50	2.00%	<u>(13,817)</u>
	Total CIAC Reserve Adjustment	<u>\$ (146,979)</u>			<u>\$ (76,818)</u>

- (a) Derived from Staff's Schedule B-6
- (b) Age at Date Certain
- (c) Staff's Schedule B-3.2
- (d) Columns: (a) x (b) x (c)

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Calculation of Jurisdictional Depreciation Expense

<u>Acct. No.</u>	<u>Description</u>	<u>Jurisdictional Plant In Service</u> (a)	<u>Accrual Rate</u> (b)	<u>Jurisdictional Depreciation Expense</u> (c)
	<u>Intangible Plant:</u>			
301	Organization	\$ 900		\$
302	Franchises & Consents			
303	Misc. Intangible Plant			
	Total Intangible Plant	900		
	<u>Source of Supply Plant:</u>			
310	Land & Land Rights	4,050		
311	Structures & Improvements			
312	Collecting & Impounding Res.			
313	Lake, River & Other Intakes			
314	Wells & Springs	7,335	1.82%	133
316	Supply Mains			
	Total Source of Supply Plant	11,385		133
	<u>Pumping Plant:</u>			
320	Land & Land Rights			
321	Structures & Improvements	4,953	2.00%	99
323	Other Power Prod. Equip.			
325	Electric Pumping Equip.	15,731	3.33%	524
326	Diesel Pumping Equip.			
328	Other Pumping Equip.	1,194	3.33%	40
	Total Pumping Plant	21,878		663
	<u>Water Treatment Plant:</u>			
330	Land & Land Rights			
331	Structures & Improvements			
332	Water Treatment Equip.	11,055	2.50%	276
	Total Water Treatment Plant	11,055		276
	<u>Transmission & Distribution Plant:</u>			
340	Land & Land Rights			
341	Structures & Improvements			
342	Distr. Reser. & Standpipes	7,184	2.00%	144
343	Trans. & Distr. Mains	127,146	1.25%	1,589
345	Services	17,490	2.00%	350
346	Meters	2,882	2.86%	82
347	Meter Installations			
349	Other T&D	14,002	2.00%	280
	Total Transmission & Distribution Plant	\$ 168,704		\$ 2,445

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Calculation of Jurisdictional Depreciation Expense

<u>Acct. No.</u>	<u>Description</u>	<u>Jurisdictional Plant In Service</u> (a)	<u>Accrual Rate</u> (b)	<u>Jurisdictional Depreciation Expense</u> (c)
	<u>General Plant:</u>			
389	Land & Land Rights	\$		\$
390	Structures & Improvements			
390	Limited Term Utility Plant			
391.1	Office Furniture			
391.2	Computer Equip. & Software			
391.3	Office Machines & Equip.			
392	Transportation Equip.			
393	Stores Equip.			
394	Tools, Shop, & Garage Equip.			
395	Laboratory Equip.			
396	Power Operated Equip.			
397	Communication Equip.			
398	Miscellaneous Equip.	<u>4,801</u>	10.00%	<u>480</u>
	Total General Plant	4,801		480
	Subtotals	218,723		3,997
	Less: Contributions in Aid of Construction (d)	<u>(146,979)</u>		<u>(1,987)</u>
	Total Water Plant in Service	<u>\$ 71,744</u>		<u>\$ 2,010</u>

- (a) Staff's Schedule B-2.1
- (b) Current Accrual Rates
- (c) Columns (a) x (b)
- (d) Staff's Schedule B-3.2a

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
CIAC Depreciation Expense Adjustment

<u>Acct. No.</u>	<u>Account Description</u> (a)	Staff's CIAC Plant <u>Adjustment</u> (b)	<u>Accrual Rate</u> (c)	Staff's CIAC Jurisdictional Depr. Expense <u>Adjustment</u>
314	Wells & Springs	\$ 1,983	1.82%	\$ 36
325	Electric Pumping Equipment	360	3.33	12
343	Trans. & Distribution Mains	127,146	1.25	1,589
345	Services	<u>17,490</u>	2.00%	<u>350</u>
	Total CIAC Reserve Adjustment	<u>\$ 146,979</u>		<u>\$ 1,987</u>

- (a) Derived from Staff's Schedule B-6
- (b) Staff's Schedule B-3.2
- (c) Columns: (a) x (b)

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Construction Work In Progress Summary

None

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Working Capital Allowance

	<u>Adjusted Revenues & Expenses</u> (a)	<u>Revenue Lag</u> (b)	<u>Expense Lag</u> (c)	<u>Net Interval</u> (d)	<u>Weighted Dollar Days</u> (e)	<u>Working Capital Requirements</u> (f)
<u>Operation and Maintenance Expenses:</u>						
(1)	Electric Expense	\$ 10,068	64.50	34.46	30.04	\$ 302,443
(2)	Water Treatment Expense	5,236	64.50	15.92	48.58	254,365
(3)	Administrative and General Salaries					
(4)	Outside Services Expense	38,469	64.50	15.00	49.50	1,904,216
(5)	Repairs and Maintenance Expense	3,227	64.50	47.07	17.43	56,247
(6)	Supplies and Expense	1,022	64.50	10.89	53.61	54,789
(7)	Office Supplies & Expense	3,398	64.50	18.19	46.31	157,361
(8)	Extraordinary Maintenance Expense	3,828	64.50	47.07	17.43	66,722
(9)	Rate Case Expense	<u>965</u>	64.50	47.07	17.43	<u>16,826</u>
(10)	Total Operation and Maintenance Expense	<u>66,213</u>				7,707
(11)	Depreciation	2,010				
(12)	Taxes Other Than FIT:					
(13)	Excise Taxes - 4.00%	1,635	64.50	138.00	(73.50)	(120,173)
(14)	Excise Taxes - .75%	307	64.50	(77.00)	141.50	43,441
(15)	Property Taxes	3,261	64.50	301.92	(237.42)	(774,227)
(16)	PUCO & OCC Taxes	123	64.50	85.44	(20.94)	(2,576)
(17)	Federal Income Taxes:					
(19)	Current FIT	(1,051)	64.50	37.00	27.50	(28,903)
(20)	Net Investment Tax Credit		64.50	64.50		(79)
(21)	Deferred FIT	(98)	64.50		64.50	(6,321)
(22)	Cash Invested In Rate Of Return					
(23)	Interest on long-term debt		64.50		64.50	
(24)	Balance available for common dividends	<u>(6,513)</u>	64.50		64.50	(420,070)
(25)	Total Annual Cost of Operation	<u>\$ 65,887</u>				
(26)	Revenues and Expenses Allowance					<u>\$ 4,122</u>

(a) Staff's Schedules C-1 through C-4

(b) Derived from Applicant's Quarterly Pre-Billing Report

(c) Derived from Staff's Lead/Lag Study of Expense

(d) Columns (b) - (c)

(e) Columns (a) x (d)

(f) Column (e) ÷ 365 days

SHEPARD HILLS WATER COMPANY
 Case No. 98-1012-WW-AIR
Other Rate Base Items

	Total <u>Company</u> (a)
(1) Deferred Federal Income - Accelerated Depr. (a)	\$ 98
(2) Contributions In Aid of Construction (b)	<u>(146,979)</u>
(3) Total Rate Base Deductions (1) + (2)	<u>\$ (146,881)</u>

- (a) Staff's Schedule C-4
- (b) Staff's Workpaper WPB-6

SCHEDULE C-1

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Proforma Operating Income Statement
For The Twelve Months Ending December 31, 1997

	<u>Adjusted Revenues & Expenses</u> (a)	<u>Proforma Adjustments</u> (b)	<u>Proforma Revenues & Expenses</u> (c)
<u>Operating Revenues:</u>			
Water Sales Revenues	\$ 65,887	\$ 14,800	\$ 80,688
Other Operating Revenues	<u> </u>	<u> </u>	<u> </u>
Total Operating Revenues	65,887	14,800	80,688
<u>Operating Expenses:</u>			
Operation and Maintenance	66,213		66,213
Depreciation	2,010		2,010
Taxes, Other Than Income	5,326	703	6,029
Federal Income Taxes	<u>(1,149)</u>	<u>2,115</u>	<u>966</u>
Total Operating Expenses	72,400	2,818	75,218
Net Operating Income	<u>\$ (6,513)</u>	<u>\$ 11,982</u>	<u>\$ 5,469</u>
Rate Base (d)	<u>\$ 42,169</u>		<u>\$ 42,169</u>
Rate of Return (e)	<u>(15.44)%</u>		<u>13.00%</u>

- (a) Staff's Schedule C-2
- (b) Staff's Schedule C-1.1
- (c) Columns (a) + (b)
- (d) Staff's Schedule B-1
- (e) Net Operating Income ÷ Rate Base

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Proforma Adjustments

(1)	Proposed Revenue Increase (a)	<u>\$ 14,800</u>
(2)	Uncollectible Accounts Expense (1) x 0.000000%	
(3)	Ohio Gross Receipts Tax (b)	<u>\$ 703</u>
(4)	Federal Income Tax (c)	<u>\$ 2,115</u>

- (a) Staff's Schedule C-1.1a
- (b) Staff's Schedule C-3.10b
- (c) Staff's Schedule C-4

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Summary of Operating Revenues at Current and Proposed Rates

	<u>Customer Bills</u>	<u>Test Year Consumption (CCF)</u>	<u>Current Rate</u>	<u>Current Annualized Revenue</u>	<u>Proposed Rate</u>	<u>Proposed Annualized Revenue</u>	<u>Proposed Increase</u>
	(a)	(a)	(b)	(c)	(d)	(e)	(f)
(1) Customer Service Charge	1,184		15.42	\$ 18,257	18.89	\$ 22,366	\$ 4,108
(2) Flat Rate		<u>30,203</u>	1.577	<u>47,630</u>	1.931	<u>58,322</u>	<u>10,692</u>
(3) Total Metered Service (1) + (2)				65,887		80,688	14,800
(4) Forfeited Discounts				_____		_____	_____
(5) Total Revenue (3) + (4)				<u>\$ 65,887</u>		<u>\$ 80,688</u>	<u>\$ 14,800</u>

- (a) Applicant's Records
- (b) Rate Case No. 93-1440-WW-AIR
- (c) Column (a) x (b)
- (d) Applicant's Proposed Tariff
- (e) Column (a) x (d)
- (f) Column (e) - (c)

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Adjusted Test Year Operating Income

	<u>Test Year Revenues & Expenses</u> (a)	<u>Adjustments</u> (b)	<u>Adjusted Revenues & Expenses</u> (c)
<u>Operating Revenues:</u>			
Water Sales Revenues	\$ 66,741	\$ (854)	\$ 65,887
Other Operating Revenues	<u> </u>	<u> </u>	<u> </u>
Total Operating Revenues	66,741	(854)	65,887
<u>Operating Expenses:</u>			
Electric Expense	8,350	1,718	10,068
Water Treatment Expense	1,779	3,457	5,236
Administrative & General Salaries	16,800	(16,800)	
Outside Services Expense	24,486	13,983	38,469
Repairs & Maintenance Expense	7,288	(4,061)	3,227
Supplies & Expense	1,022		1,022
Office Supplies & Expense	3,398		3,398
Extraordinary Maintenance Expense	202	3,626	3,828
Rate Case Expense	<u>132</u>	<u>833</u>	<u>965</u>
Total Operation & Maintenance Expense	63,457	2,756	66,213
Depreciation & Amortization	1,357	653	2,010
Taxes, Other Than Income	5,657	(331)	5,326
Income Taxes	<u>(1,149)</u>	<u> </u>	<u>(1,149)</u>
Total Operating Expenses	<u>70,471</u>	<u>1,929</u>	<u>72,400</u>
Net Operating Income	<u>\$ (3,730)</u>	<u>\$ (2,783)</u>	<u>\$ (6,513)</u>

- (a) Applicant's Schedule C-2
- (b) Staff's Schedule C-3
- (c) Columns (a) + (b)

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Summary of Staff's Adjustments

	<u>Staff's Adjustments</u> (a)
<u>Operating Revenues:</u>	
C-3.1 Metered Revenues Sales	\$ (854)
 <u>Operating Expenses:</u>	
C-3.2 Electric Expense	\$ 1,718
C-3.3 Water Treatment Expense	3,457
C-3.4 Administrative & General Salaries	(16,800)
C-3.5 Outside Services Expense	13,983
C-3.6 Repairs & Maintenance Expense	(4,061)
C-3.7 Extraordinary Maintenance Expense	3,626
C-3.8 Rate Case Expense	<u>833</u>
Total O & M Expenses	2,756
C-3.9 Depreciation & Amortization	653
C-3.10 Taxes Other Than Income	(331)
C-3.11 Federal Income Taxes	<u>(1,149)</u>
Total Expense Adjustment	<u>\$ 1,929</u>

- (a) Staff's Schedules C-3.1 Through C-3.11
- (b) Applicant's Schedule C-3
- (c) Columns (a) - (b)

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Metered Sales Revenue Adjustment

(1) Adjusted Metered Sales Revenue (a)	\$ 65,887
(2) Test Year Metered Sales Revenue (b)	<u>66,741</u>
(3) Adjustment (1) - (2)	<u>\$ (854)</u>

- (a) Staff's Schedule C-1.1a
- (b) Applicant's 1997 Financial Records

SHEPARD HILLS WATER COMPANY
 Case No. 98-1012-WW-AIR
Electric Expense Adjustment

(1)	Adjusted Electric Expense (a)	\$	10,068
(2)	Applicant's Test Year Expense (b)		<u>8,350</u>
(3)	Adjustment (1) - (2)	\$	<u><u>1,718</u></u>

- (a) Staff's Workpaper WPC-3.2
- (b) Applicant's 1997 Financial Records

SHEPARD HILLS WATER COMPANY
 Case No. 98-1012-WW-AIR
Water Treatment Expense Adjustment

(1)	Adjusted Chemical Expense (a)	\$	5,236
(2)	Applicant's Test Year Expense (b)		<u>1,779</u>
(3)	Adjustment (1) - (2)	\$	<u><u>3,457</u></u>

- (a) Staff's Workpaper WPC-3.3
- (b) Applicant's 1997 Financial Records

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Administrative And General Salaries Adjustment

(1) Adjusted Administrative Expense (a)	\$
(2) Test Year Expense (b)	<u>16,800</u>
(3) Adjustment (1) - (2)	<u>\$ (16,800)</u>

- (a) Refer To Text
- (b) Applicant's 1997 Financial Records

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Outside Services Expense Adjustment

(1) Adjusted Outside Services Expense (a)	\$ 38,469
(2) Applicant's Test Year Expense (b)	<u>24,486</u>
(3) Adjustment (1) - (2)	<u>\$ 13,983</u>

- (a) Staff's Workpaper WPC-3.5
- (b) Applicant's 1997 Financial Records

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Repairs and Maintenance Expense Adjustment

(1) Adjusted Maintenance Expense (a)	\$ 3,227
(2) Test Year Maintenance Expense (b)	<u>7,288</u>
(3) Adjustment (1) - (2)	<u>\$ (4,061)</u>

- (a) Staff's Workpaper WPC-3.6
- (b) Derived From Applicant's 1997 Financial Records

SHEPARD HILLS WATER COMPANY
 Case No. 98-1012-WW-AIR
Extraordinary Maintenance Expense Adjustment

(1)	Engineering Fees (a)	\$ 2,500
(2)	Installation of High Service Pump (a)	2,150
(3)	Pressure Switch (a)	1,447
(4)	Back-Up Pump	980
(5)	Tank Cleaning and tank Modifications	<u>3,800</u>
(6)	Total Extraordinary Maintenance Expense (1) thru (3)	10,877
(7)	Amortization Period	<u>3</u>
(8)	Adjustment (4) ÷ (5)	<u>\$ 3,626</u>

(a) Refer To Consumer Services Portion of Text

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Rate Case Expense Adjustment

(1)	Estimated Rate Case Expense (a)	\$ 2,500
(2)	Amortization Period (a)	<u>3</u>
(3)	Adjustment (1) ÷ (2)	<u>\$ 833</u>

(a) Refer To Text

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Depreciation Expense Adjustment

(1) Adjusted Depreciation Expense (a)	\$ 2,010
(2) Test Year Depreciation Expense (b)	<u>1,357</u>
(3) Adjustment (1) - (2)	<u>\$ 653</u>

- (a) Staff's Schedule B-3.2
- (b) Applicant's 1997 Federal Income Tax Return

SHEPARD HILLS WATER COMPANY
 Case No. 98-1012-WW-AIR
Summary of Taxes Other Than Income Adjustments

	<u>Schedule Reference</u>	<u>Adjusted Taxes</u>
(1) Ohio Property Taxes	C-3.10a	\$ 3,261
(2) Ohio Gross Receipts Tax	C-3.10b	1,942
(3) PUCO Maintenance & OCC Fund	C-3.10c	<u>123</u>
(4) Total Taxes Other Than Income (1) Thru (3)		5,326
(5) Test Year Taxes Other Than Income (a)		<u>5,657</u>
(6) Adjustment (4) - (5)		<u>\$ (331)</u>

(a) Applicant's Schedule C-2

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Calculation of Ohio Property Taxes

(1) Test Year Property Taxes (a) \$ 3,261

(a) Applicant's Most Recent Property Tax Bills

SHEPARD HILLS WATER COMPANY
 Case No. 98-1012-WW-AIR
Calculation of Ohio Gross Receipts Taxes

	<u>Adusted Operating Income</u>	<u>Proforma Operating Income</u>
(1) Operating Revenue (a)	\$ 65,887	\$ 80,688
(2) Statutory Exemption	<u>25,000</u>	<u>25,000</u>
(3) Net Taxable Revenue (1) - (2) - (3)	40,887	55,688
(4) Tax Rate	<u>4.75%</u>	<u>4.75%</u>
(5) Gross Receipts Tax (4) x (5)	<u>\$ 1,942</u>	<u>\$ 2,645</u>

(a) Staff's Schedule C-1

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Calculation of PUCO Maintenance and OCC Fund Assessments

(1) PUCO Maintenance Assessment (a)	\$ 73
(2) OCC Fund Assessment (a)	<u>50</u>
(3) Total Assessment (1) + (2)	<u>\$ 123</u>

(a) Actual 1997 Assessments

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Federal Income Tax Expense Adjustment

(1) Adjusted Federal Income Taxes (a)	\$ (1,149)
(2) Test Year Federal Income Taxes (b)	_____
(3) Adjustment (1) - (2)	<u>\$ (1,149)</u>

- (a) Staff's Schedule C-4
- (b) Applicant's 1997 Federal Income Tax Return

SHEPARD HILLS WATER COMPANY
Case No. 98-1012-WW-AIR
Calculation of Federal Income Taxes

	<u>Adjusted Operating Income</u>	<u>Proforma Operating Income</u>
(1) Operating Income Before FIT (a)	\$ (7,662)	\$ 6,435
Reconciling Items:		
(2) Interest Charges		
(3) Book Depreciation (b)	2,010	2,010
(4) Tax Accelerated Depreciation (c)	<u>1,354</u>	<u>1,354</u>
(5) Excess of Tax Over Book Depreciation (3) - (4)	656	656
(6) Other Reconciling Items	<u> </u>	<u> </u>
(7) Total Reconciling Items (2) + (5) + (6)	656	656
(8) Federal Taxable Income (1) + (7)	(7,006)	7,091
<u>Federal Income Taxes:</u>		
(9) First \$50,000 x 15%	(1,051)	1,064
(10) Next \$25,000 x 25%		
(11) Excess Over \$75,000 x 34%		
(12) Excess Over \$100,000 x 5% to a Maximum of \$11,750	<u> </u>	<u> </u>
(13) Federal Income Taxes (9) Through (12)	(1,051)	1,064
(14) Investment Tax Credit Utilized	<u> </u>	<u> </u>
(15) Federal Income Taxes - Current (13) - (14)	(1,051)	1,064
<u>Deferred Income Taxes:</u>		
(16) Tax Accelerated Depreciation (c)	1,354	1,354
(17) Tax Straight Line Depreciation (c)	<u>2,010</u>	<u>2,010</u>
(18) Excess of Tax Accelerated over Tax S/L Deprec. (16) - (17)	(656)	(656)
(19) Deferred @15.00%	(98)	(98)
(20) Total Federal Income Taxes (15) + (19)	<u>\$ (1,149)</u>	<u>\$ 966</u>

- (a) Staff's Schedule C-1
- (b) Staff's Schedule B-3.2
- (c) Applicant's 1997 Federal Income Tax Return