

**TESTIMONY OF DEBORAH D. SWAIN  
BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION  
REGARDING THE RULES FOR MARGIN RESERVE AND  
IMPUTATION OF CIAC ON MARGIN RESERVE**

*on behalf of:*

**THE FLORIDA WATERWORKS ASSOCIATION  
DOCKET NO. 960258-WS**

*prepared by:*

**Milian, Swain & Associates, Inc.**

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1 water and wastewater systems, the vast majority of which were regulated  
2 by the Commission.

3 **Q. IN WHAT CAPACITY HAVE YOU BEEN ACCEPTED AS AN**  
4 **EXPERT BEFORE THE FPSC?**

5 A. I have been accepted as an expert in regulatory accounting and in rate  
6 regulation matters in general.

7 **Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS**  
8 **PROCEEDING?**

9 A. I am appearing on behalf of the Florida Water works Association (FWA).

10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

11 A. As Mr. Milian indicated, the work to be performed for FWA includes  
12 determining the impact of the Commission's proposed rule on the cost of  
13 providing utility service and the impact on customer rates and utility  
14 earnings. The purpose of my testimony is to present the findings of our  
15 study and recommend a course of action in this rulemaking proceeding.

16 **Q. COULD YOU PLEASE SUMMARIZE THE MAJOR FINDINGS OF**  
17 **YOUR STUDY?**

18 A. Based on the survey we conducted and the analysis we performed, we  
19 found that:

- 20 • Under the Commission's proposed rule for margin reserve and  
21 imputation of CIAC, a utility can never hope to earn its authorized  
22 rate of return, even assuming no regulatory lag and full recovery of  
23 all authorized operating revenues, CIAC and an allowance for  
24 funds prudently invested (AFPI).
- 25 • Under the Commission's proposed rule for margin reserve and

1 imputation of CIAC, a utility can maximize its earnings only by  
2 choosing the construction alternative that results in higher unit  
3 costs and higher rates to the customer.

4 • A five year margin reserve policy, without imputed CIAC, will  
5 encourage economies of scale, resulting in lower long term costs  
6 and rates than the 18 month margin reserve period proposed by the  
7 Commission.

8 **Q. WHAT DOES THE COMMISSION PROPOSED RULE PROVIDE**  
9 **REGARDING MARGIN RESERVE?**

10 A. Proposed rulemaking issued by the Commission in July 1996, would allow  
11 18 months margin reserve for water source and treatment facilities and  
12 wastewater treatment and effluent disposal facilities, and a 12 month  
13 margin reserve for water transmission and distribution lines and  
14 wastewater collection systems.

15 **Q. PLEASE EXPLAIN THE STUDY YOU PERFORMED.**

16 A. As I describe, the FWA asked us to perform an analysis to identify and  
17 quantify the long-term impacts of environmental regulation and the  
18 Commission proposed rule related to the margin reserve. Margin reserve  
19 is the investment in plant needed to meet the demands of potential  
20 customers and the changing demands of existing customers within a  
21 reasonable time. These reserve requirements are considered when  
22 preparing planning and construction schedules and cash flow requirements  
23 to finance this construction. Over the years, the Commission has  
24 reviewed various construction and investment decisions resulting from  
25 margin reserve policy. Testimony presented for consideration is usually in

1 conjunction with a utility rate increase application for a particular investor  
2 at a certain point in time. Our study attempts to provide an overall view of  
3 the costs to customers for construction decisions resulting from  
4 environmental and economic rulemaking. In order to gauge the impact of  
5 environmental and economic regulation on utility decision making and the  
6 resulting costs to customers across the industry, utilities of all sizes  
7 throughout the State of Florida were polled. Numerical data and anecdotal  
8 information provided by utilities, consulting engineers and regulatory  
9 agencies have been tabulated and summarized. Those who provided  
10 information are acknowledged in my study.

11 Based on this information, financial models were developed to  
12 demonstrate the overall return on investment resulting from various  
13 alternative margin reserve policies.

14 **Q. WHAT IS THE IMPACT OF A LESS THAN 5 YEAR MARGIN**  
15 **RESERVE?**

16 A. The model demonstrates that even in an otherwise perfect world where all  
17 other costs are fully recovered, a utility can never earn its authorized rate  
18 of return with less than a five-year margin reserve.

19 **Q. HOW DOES ENVIRONMENTAL REGULATION AFFECT**  
20 **PLANNING AND CONSTRUCTION SCHEDULES?**

21 A. Environmental regulation has become more stringent in recent years. The  
22 permitting process has become more complex and certain environmental  
23 regulators, such as the Florida Department of Environmental Protection  
24 (DEP), even have schedules which dictate certain actions based upon  
25 reaching stated capacities of facilities. Greater demands on water and

1 wastewater utilities result in higher costs of providing service to  
2 customers. This requires more time for planning and permitting, and it  
3 requires that utilities give consideration to economic issues involving the  
4 various alternatives they may face. Because of the time involved, many  
5 utilities are in a constant state of planning, design, permitting and  
6 construction.

7 **Q. HOW HAS THE COMMISSION SUPPORTED ENVIRONMENTAL**  
8 **COMPLIANCE?**

9 A. Although the Commission has supported utility compliance with  
10 environmental regulations by allowing pass-through rate adjustments for a  
11 limited number of statutorily mandated expenses, Commission support, in  
12 terms of adequate rate recovery, for construction of economically sized  
13 water and wastewater treatment, distribution and disposal facilities has  
14 been uncommon.

15 **Q. WHAT DO YOU MEAN BY "ECONOMICALLY SIZED"?**

16 A. By that I mean sized to take advantage of the economies of scale. In the  
17 long run it is better for both the utility investor and the utility customers to  
18 incorporate the economy of scaling a plant by constructing a larger size  
19 plant and providing for some reasonable amount of extra capacity. To  
20 demonstrate this, we prepared financial models which compared two  
21 alternative scenarios for construction of water and wastewater treatment  
22 plant additions over a 30 year period. We used actual construction cost  
23 data provided by FWA utility members. We also assumed that the utility  
24 would fully recover all other costs, including AFPI. Under both model  
25 scenarios, we found that the economically sized construction resulted in



1 lower rates and service availability charges than the smaller sized plants --  
2 in the short term and over the long-term. In addition, the net present value  
3 of revenue requirements, including CIAC and AFPI, is lower when  
4 economically sizing plant. This is fully documented in the Attachment to  
5 my study, EXHIBIT DS-2.

6 **Q. IF IT IS MORE BENEFICIAL TO BOTH THE UTILITY**  
7 **INVESTOR AND THE UTILITY CUSTOMER TO ADD PLANT**  
8 **WITH RESERVE CAPACITY, WHY WOULD THE UTILITY**  
9 **CHOOSE TO BUILD SMALLER, LESS OPTIMAL PLANT WITH**  
10 **LESS RESERVE CAPACITY?**

11 A. Under the Commission proposed rule, the benefits to the utility are  
12 realized in the long term. However, in the short term, the utility will "lose  
13 less money" by building smaller less optimal plants. Unfortunately, this  
14 will result in higher costs to the utility customer. If the utility expands  
15 facilities in larger increments, at less frequent intervals, it is likely that the  
16 plant will be deemed less than 100% used and useful by the regulator in a  
17 rate adjustment hearing. While the cost to customers may be lower, if the  
18 utility cannot operate at a profit, other costs, such as higher financing  
19 costs, may offset the savings to customers.  
20 Using the calculations in my model, I have prepared two graphs to  
21 demonstrate the impact of economies of scale on the customers. In  
22 EXHIBIT DS-3 I have used a wastewater treatment plant example, while  
23 EXHIBIT DS-4 uses a water treatment plant example. The wastewater  
24 graph shows that the customers realize a lower cost immediately as a result  
25 of economically sizing plant. In the case of the water example, the

1 customers' cost will be lower after the third year the plant is in service.  
2 These findings are not merely theoretical. They result from our survey of  
3 investor-owned utilities, indicating that investment recovery and the  
4 timing of that recovery are given serious consideration when making  
5 decision for plant expansion. Having been negatively impacted by used  
6 and useful decisions in rate hearings, some utility managers are giving  
7 greater weight to economic regulation than to economies of scale when  
8 deciding the appropriate size for facility expansion. One utility company  
9 responding to our survey directed its engineering consultants to design a  
10 master plan calling for ten phases rather than three to four construction  
11 phases. Another utility reported that facility expansions for 2.25 MGD,  
12 the ultimate facility demand, will be constructed in up to nine stages,  
13 rather than the optimal four stages, to avoid unfavorable non-used and  
14 useful adjustments. Based upon our study, the impact of these decisions  
15 will be higher customer rates.

16 In addition to the economies of scale that could be realized from larger,  
17 more optimal expansions, additional saving could be obtained from lower  
18 engineering costs, permitting fees, and equipment mobilization.

19 **Q. WHAT CAN BE DONE TO PROMOTE A MORE PRUDENT**  
20 **APPROACH TO PLANT EXPANSIONS ?**

21 A. Several things can be done to help the utility achieve a fair return while  
22 planning for lower long-term costs to customers. First, the margin reserve  
23 period should be a minimum of 5 years instead of 18 months because, on  
24 average, the utility is required to begin spending money by investing in  
25 plans for expansion five years before the plant reaches full capacity. In

1 other words, utilities always require a five-year reserve period to comply  
2 with environmental regulations. Secondly, CIAC should not be imputed  
3 on margin reserve.

4 **Q. WHY IS IT INAPPROPRIATE TO IMPUTE CIAC ON MARGIN**  
5 **RESERVE**

6 A. The requirement to have excess capacity is ongoing and should not be  
7 diminished through the imputation of CIAC. Margin reserve benefits  
8 existing customers by ensuring that future customers will not overload  
9 existing facilities and impact the quality and safety of service provided.  
10 As customers connect to the system, the need for additional plant to serve  
11 additional customers does not diminish. The imputation of CIAC removes  
12 all or most of the benefit of margin reserve. Since the existing plant,  
13 including margin reserve, requires actual capital expenditures on a current  
14 basis, there will always be current costs for future growth. However,  
15 contributions from future customers are not a current offset of these costs.  
16 There is always a gap between the time existing plant must be available,  
17 and paid for, and the time that future customers will provide contributions  
18 to partially cover the cost of that plant.

19 Also, there is always the risk that the imputed contributions will  
20 never materialize. The utility is required to have sufficient plant to serve  
21 new customers and must invest capital for this reserve capacity.  
22 Imputation of this speculative CIAC unfairly denies the utility recovery of  
23 a required cost of providing service.  
24 Furthermore, the combination of margin reserve and imputation of CIAC  
25 has the impact of completely removing that portion of plant from inclusion

1 in any rate calculation. Because the plant, and related equivalent  
2 residential connections (ERC's) are allowed in used and useful through  
3 margin reserve, they are not included in recovery through AFPI – which is  
4 limited to nonused and useful plant. However, because CIAC is imputed,  
5 the cost and ERC's are also eliminated from current customer rates. That  
6 investment made by the utility for customers connecting over the margin  
7 reserve period required will never be recovered if CIAC is imputed.

8 **Q. IF THE UTILITY WERE GRANTED A FIVE YEAR MARGIN OF**  
9 **RESERVE WITHOUT AN OFFSET FOR CIAC, WOULD THE**  
10 **UTILITY EARN MORE THAN THE AUTHORIZED RATE OF**  
11 **RETURN?**

12 A. No, not at all. If the utility were granted a five year margin of reserve  
13 with no offset for CIAC, the utility would only come closer to achieving  
14 its authorized rate of return in both the long-term and short term as  
15 indicated on my EXHIBIT DS-5. Again I have assumed in this calculation  
16 that it is a perfect world: full recovery of operation and maintenance  
17 expenses, predictable customer growth and optimal plant utilization, and  
18 no regulatory lag.

19 **Q. IS YOUR PROPOSED MARGIN RESERVE POLICY**  
20 **CONSISTENT WITH THE POLICIES OF OTHER REGULATED**  
21 **INDUSTRIES?**

22 A. Our request is more conservative than the policies granted to electric, gas  
23 and telephone utilities regulated by this Commission, and public water and  
24 wastewater utilities in the state of Florida. As an example, power utilities'□  
25 investments in electric generating plants, with possible rare exceptions, are

1 sized to handle considerable growth (margin reserve and CWIP) but yet no  
2 used and useful adjustments are made, because the investments are  
3 economically prudent.

4 **Q. IS THERE SIMILAR TREATMENT OF NONUSED AND USEFUL**  
5 **PLANT MADE TO GOVERNMENT OWNED UTILITIES?**

6 A. No. Since public water and wastewater utilities must have revenues  
7 adequate to meet cash flow requirements, no adjustments are made for  
8 non-used and useful, and therefore margin reserve is not specifically  
9 addressed. Municipal and county-owned water and wastewater utilities  
10 typically fund plant expansions with revenue bonds, CIAC, and directly  
11 from monthly user fees. Revenues must be adequate to cover operating  
12 and maintenance expenses, renewal and replacement funding, the full cost  
13 of debt service including principal and interest, and bond coverage  
14 requirements.

15 These utilities are required to review rates annually and make rate  
16 adjustments, if necessary, to meet cash flow and debt coverage  
17 requirements. The relevant comparison of public and investor-owned  
18 water and wastewater utilities is that public utilities must recover the debt  
19 costs associated with plant expansion, including reserve capacity, from  
20 existing customers, whereas investor owned utility shareholders bear the  
21 cost of reserve capacity. In other words, public utilities recover 100% of  
22 the cost associated with current plant, even if sized for future customers,  
23 and 100% of construction work in progress. As a result, public utilities  
24 give primary consideration to economies of scale and readiness to serve  
25 when making decisions regarding plant expansions.

1 Q. **WOULD YOU PLEASE SUMMARIZE YOUR TESTIMONY?**

2 A. It is appropriate to allow a margin reserve of 5 years for rate making  
3 purposes to encourage prudently sized plant additions and encourage  
4 compliance with DEP planning schedules. It is inappropriate to offset  
5 margin reserve by the imputation of CIAC because this practice  
6 discourages long-term planning for growth.

7 Q. **DOES THIS CONCLUDE YOUR TESTIMONY?**

8 A. Yes.

## EXHIBIT DS-1

**DEBORAH D. SWAIN**  
**VICE PRESIDENT**

### ***PROFESSIONAL SPECIALIZATION***

Management, accounting, systems development, financial planning and modeling. Utility rate regulation, including rate design, revenue deficiency studies, and cost of service studies.

### ***RELEVANT EXPERIENCE***

#### ***Utility Economic Regulation***

Perform and supervise cost of service studies for over 200 individual private and public utility systems, calculate revenue deficiencies and revenue requirements, design rates, including determination and implementation of conservation water rates. Calculate and implement service availability fees (impact or connection fees), allowance for funds prudently invested (AFPI) and ancillary charges (miscellaneous service charges).

Prepare and present expert testimony in the area of regulatory accounting, rate regulation, and utilities in general before federal, county and state courts and regulatory agencies.

#### ***Utility System Valuation***

Analyze financial and operational data for utility system acquisition program. Present expert testimony using a variety of financial models.

#### ***System Development***

Supervise the development of numerous computer systems, including accounting and financial systems, utility billing, scheduling, and databases. Acted as project manager on a \$1.4 million utility billing implementation project. Responsibilities included selection of consultants, assignment of project team, supervision of implementation team and training team. Directly involved in identifying system modifications, system testing, procedures development, and controls development.

#### ***Utility Alternative Revenue Sources***

Developed other revenue sources for water and wastewater utilities, in particular wastewater disposal products, including effluent and sludge, and performed rate studies to support sales fees. Provided expert testimony in public hearings when required. Participated in negotiations with end users on a pertinent issues including shared benefits, required utilization, and liability.

#### ***Utility Management***

Provide management consulting services to private and public utility companies. Directly supervised entire accounting, rate regulation, budgeting, cash management, and management information systems for water, wastewater, and LP gas utilities throughout the state of Florida.

***Stormwater Utility Systems***

Performed analysis of costs for recovery through user fees for several large systems, including Metropolitan Dade County, City of Coral Gables, and the City of Miami Beach. Developed a preliminary needs analysis for several municipalities in Metropolitan Dade County by analyzing available information, including the Cities of Hialeah, North Miami, Sweetwater, and South Miami, and Medley.

Evaluated alternative billing mechanisms, including utility user fees and special assessments, recommend appropriate mechanism.

Assisted in establishment of billing, administrative, and customer service department for new stormwater management system in Metropolitan Dade County.

***Economic Analyses***

Established telecommunication permit fee to charge to private telecommunication companies and toll providers for the use of City of Miami easements, in compliance with Florida Statutes.

***GENERAL EXPERIENCE***

Vice President, Milian, Swain & Associates, Inc., 1989 - present.

Vice President, Deltona Utility Consultants, Inc., United Florida Utilities Corporation, and Deltona Utilities, Inc., 1988 - 1989.

Controller, Deltona Utility Consultants, Inc., 1984 - 1988.

Rate Analyst, Deltona Utility Consultants, Inc., 1982 - 1984.

Controller, Southern States Utilities, Inc., 1977 - 1982.

***EDUCATION***

B.S. Accounting                      Florida State University                      1976

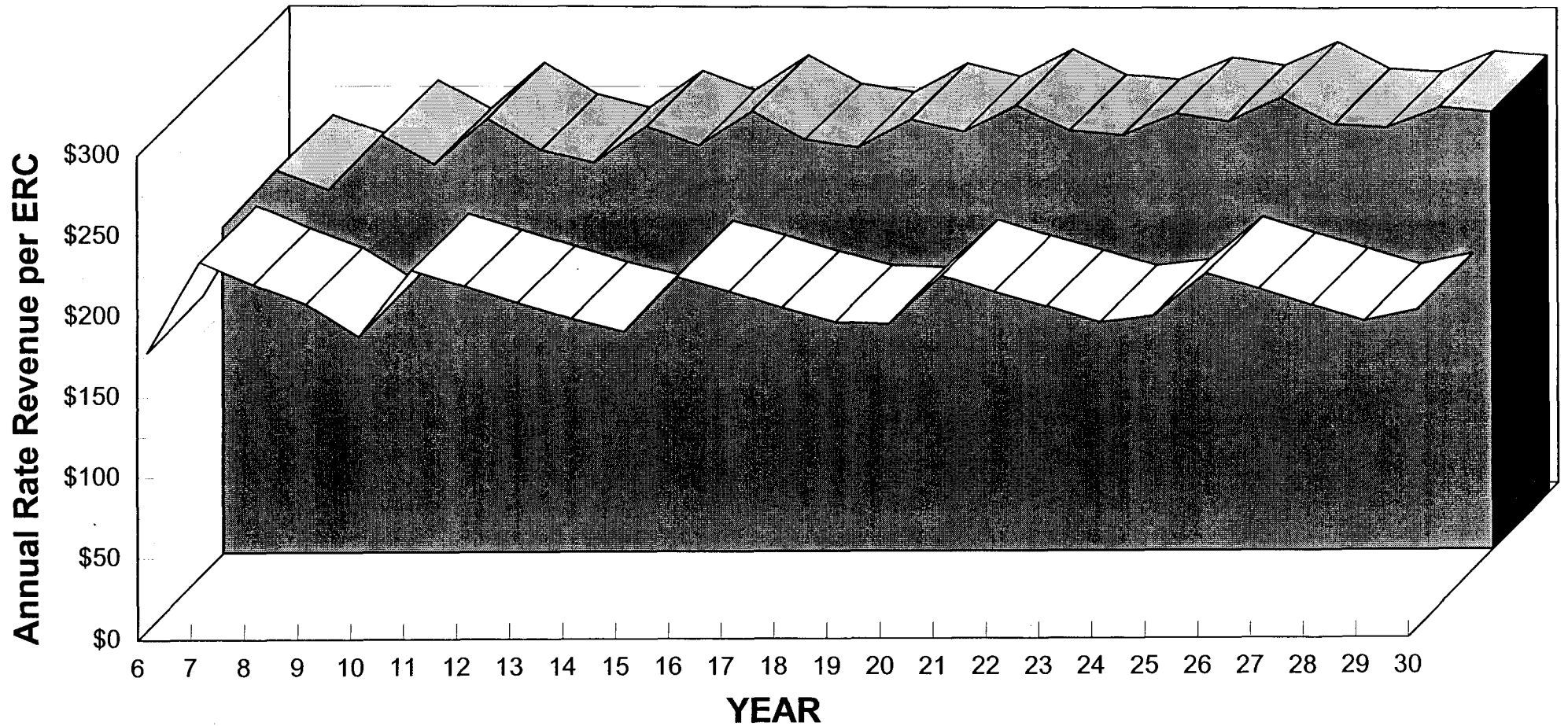
***MEMBERSHIPS (past and present)***

- American Waterworks Association
- Citizens for a Better South Florida - Board of Directors, Treasurer, Executive Committee
- Florida Waterworks Association - Board of Directors, Treasurer, Secretary,
- National Association of Water Companies



# EXHIBIT DS - 3

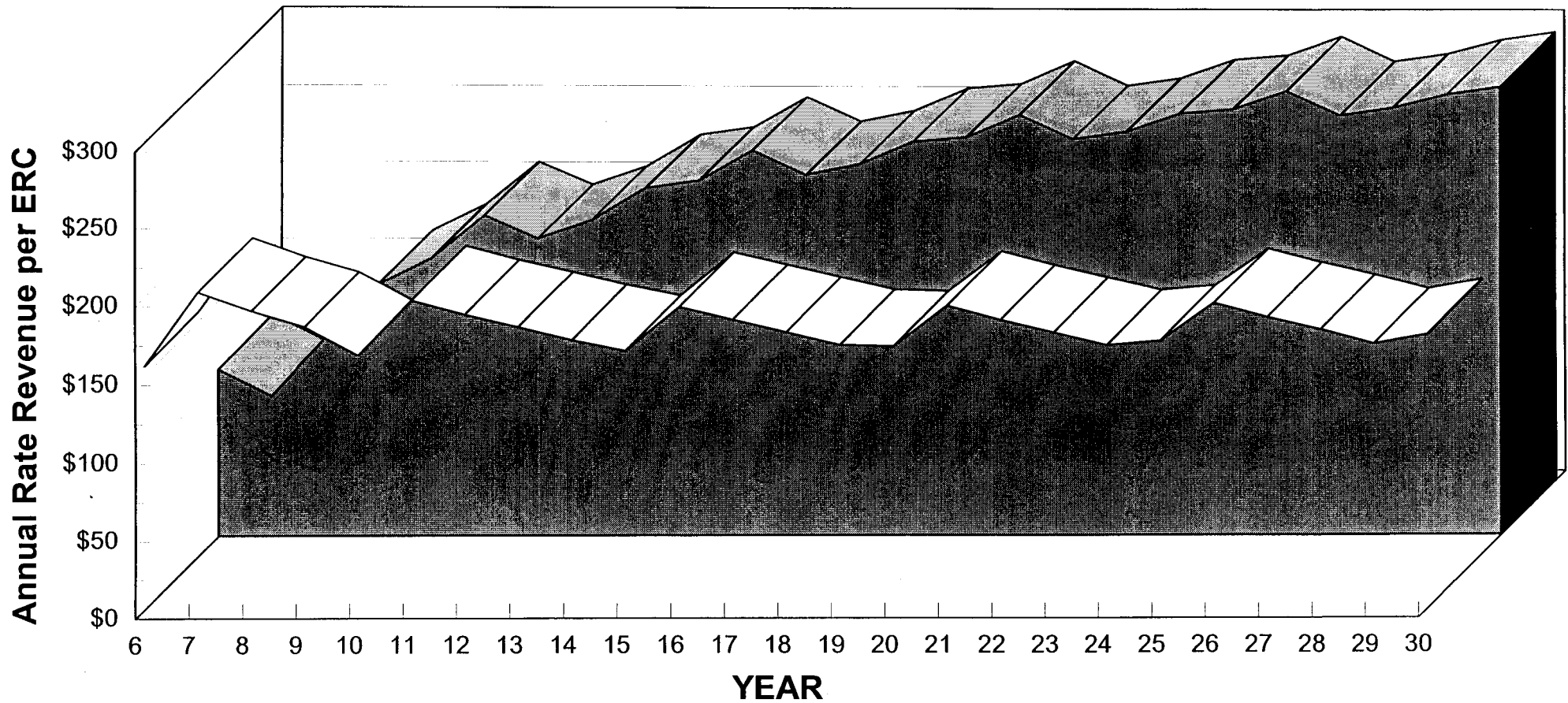
## Effects of Economies of Scale on Customer Rates Comparison - Incremental Expansion of Wastewater Treatment Plant



— Construct in 5 year increments    ■ Construct in 2.5 year increments

# EXHIBIT DS - 4

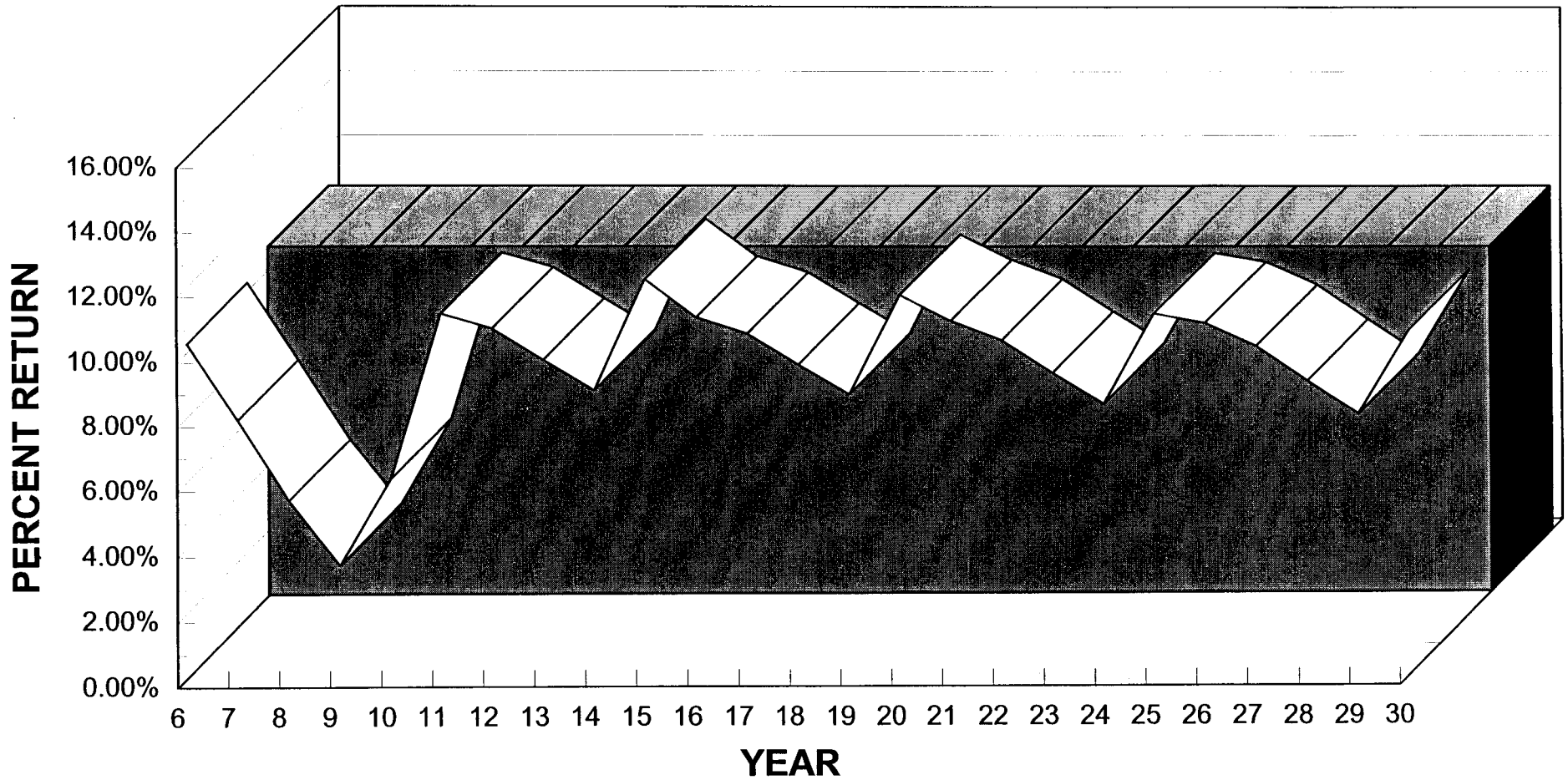
## Effects of Economies of Scale on Customer Rates Comparison - Incremental Expansion of Water Treatment Plant



— Construct in 5 year increments    ■ Construct in 2.5 year increments

# EXHIBIT DS - 5

## FWA Proposal - 5 Year Margin Reserve / No Imputation of CIAC Comparison - Actual Return to Allowed Return



— Actual Return on Investment    ■ Weighted Average Cost of Capital