0000039949

ORIGINAL

BEFORE THE ARIZONA CORPORATION C

RECEIVED
2006 JAN 25 P 3: 07
AZ CORP COMMISSION
DOCUMENT CONTROL

COMMISSIONERS
JEFF HATCH-MILLER - Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

IN THE MATTER OF THE APPLICATION OF LAS QUINTAS SERENAS WATER CO. AN INCREASE IN ITS WATER RATES.	DOCKET NO. W-01583A-04-0178
IN THE MATTER OF THE APPLICATION OF LAS QUINTAS SERENAS WATER CO. FOR AUTHORITY TO INCUR LONG-TERM INDEBTEDNESS TO FINANCE WATER SYSTEM IMPROVEMENTS AND ASSURE COMPLIANCE WITH NEW ARSENIC RULES.	DOCKET NO. W-01583A-05-0326
IN THE MATTER OF THE APPLICATION OF LAS QUINTAS SERENAS WATER COMPANY FOR AN OPINION AND ORDER TO (I) RE-OPEN THE RECORD IN THE RECENT RATE CASE SO AS TO CONSIDER EVIDENCE IN SUPPORT OF AN ARSENIC COST RECOVERY MECHANISM, AND (II) MODIFY RATE CASE DECISION IN ORDER TO ADD AN ARSENCI COST RECOVERY MECHANISM AS AN AUTHORIZED RATE SURCHARGE.	DOCKET NO. W-01583A-05-0340 **NOTICE OF FILING STAFF'S DIRECT TESTIMONY**

Arizona Corporation Commission Staff ("Staff") hereby submits the Direct Testimonies of Dorothy Hains and Daniel Zivan in this matter. Mr. Zivan's testimony consists of introductory testimony and a Staff Report. This Staff Report contains recommendations and analysis regarding

...

...

...

the financing and mechanism portions of Staff's case.

RESPECTFULLY SUBMITTED this 25th day of January, 2006.

Jason D. Gellman
Legal Division, Attorney
1200 West Washington Street
Phoenix, Arizona 85007
(602) 542-3402

AN ORIGINAL and thirteen (13)
copies were filed this 25th day
of January, 2006 with:

Docket Control
1200 West Washington Street
Phoenix, Arizona 85007

COPIES of the foregoing document
was filed this 25th day of January, 2006 to:

Lawrence V. Robertson Jr., Esq.
P.O. Box 1448
Tubac, Az 85646

Mr. Steve Gray
General Manager/Operator
Las Quintas Serenas Water Company
16965 Camino De Las Quintas
Post Office Box 68
Sahuarita, Arizona 85629

Deborah Amaral

DIRECT

TESTIMONY

OF

ELENA ZESTRIJAN

DANIEL T. ZIVAN

DOCKET NOS. W-01583A-04-0178, W-01583A-05-0326 AND W-01583A-05-0340

IN THE MATTER OF THE APPLICATION OF LAS QUINTAS SERENSA WATER CO. FOR AN INCREASE IN ITS WATER RATES

IN THE MATTER OF THE APPLICATION OF LAS QUINTAS SERENAS WATER CO. FOR AUTHORITY TO INCURE LONG-TERM INDEBTEDNESS TO FINANCE WATER SYSTEM IMPROVEMENTS AND ASSURE COMPLIANCE WITH NEW ARSENIC RULES

IN THE MATTER OF THE APPLICATION OF LAS QUINTAS SERENAS WATER CO. FOR AN OPINION AND ORDER TO (1) RE-OPEN THE RECORD IN A RECENT RATE CASE SO AS TO CONSIDER EVIDENCE IN SUPPORT OF AN ARSENIC COST RECOVERY MECHANISM, AND (II) MODIFY RATE CASE DECISION IN ORDER TO ADD AN ARSENIC COST RECOVERY MECHANISM AS AN AUTHORIZEDRATE AND CHARGE

JANUARY 25, 2006

HAINS

BEFORE THE ARIZONA CORPORATION COMMISSION

JEFF HATCH-MILLER
Chairman
WILLIAM A. MUNDELL
Commissioner
MARC SPITZER
Commissioner
MIKE GLEASON
Commissioner
KRISTIN K. MAYES
Commissioner

IN THE MATTER OF THE APPLICATION OF LAS QUINTAS SERENAS WATER CO. FOR AN INCREASE IN ITS WATER RATES	DOCKET NO. W-01583A-04-0178
IN THE MATTER OF THE APPLICATION OF LAS QUINTAS SERENAS WATER CO. FOR AUTHORITY TO INCUR LONG-TERM INDEBTEDNESS TO FINANCE WATER SYSTEM IMPROVEMENTS AND ASSURE COMPLIANCE WITH NEW ARSENIC RULES	DOCKET NO. W-01583A-05-0326
IN THE MATTER OF THE APPLICATION OF LAS QUINTAS SERENAS WATER CO. FOR AN OPINION AND ORDER TO (I) RE-OPEN THE RECORD IN A RECENT RATE CASE SO AS TO CONSIDER EVIDENCE IN SUPPORT OF ANARSENIC COST RECOVERY MECHANISM, AND (II) MODIFY RATE CASE DECISION IN ORDER TO ADD AN ARSENIC COST RECORVERY MECHANISM AS AN AUTHORIZED RATE AND CHARGE	DOCKET NO. W-01583A-05-0340

DIRECT TESTIMONY

OF

DOROTHY HAINS

UTILITIES ENGINEER

UTILITIES DIVISION

JANUARY 25, 2006

TABLE OF CONTENTS

Page

INTRODUCTION 1

PURPOSE OF TESTIMONY 2

ARSENIC TREATMENT PROJECT 3

CONCLUSIONS 8

EXECUTIVE SUMMARY
LAS QUINTAS SERENAS WATER COMPANY
DOCKET NOS. W-01583A-04-0178, W-01583A-05-0326
AND W-01583A-05-0340

CONCLUSIONS

1. The Las Quintas Serenas Water Company is delivering water that will not meet the new arsenic standard of 10 micro grams per liter and therefore needs to install treatment equipment to meet the new standard.

2. Staff has reviewed the Company's proposed treatment project and concludes that the 400,000 gallon storage tank, on-site generator and three hypochlorite chlorination units are not required for arsenic treatment and recommends their associated costs be removed from the total project cost.

3. Based upon Staff's Engineering evaluation of the Las Quintas Serenas proposal, Staff concludes that the Arsenic Treatment Project is appropriate and that for purposes of an Arsenic Remedial Surcharge Mechanism ("ARSM") the cost of arsenic treatment should be $1,324,688. Staff makes no determination of the capital improvements as "used and useful" at this time, but defers this determination until the Company files its next rate application.

INTRODUCTION

Q. Please state your name and business address.

A. My name is Dorothy Hains. My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. By whom and in what position are you employed?

A. I am employed by the Arizona Corporation Commission ("Commission" or "ACC") as a Utilities Engineer - Water/Wastewater in the Utilities Division.

Q. How long have you been employed by the Commission?

A. I have been employed by the Commission since January 1998.

Q. What are your responsibilities as a Utilities Engineer - Water/Wastewater?

A. My main responsibilities are to inspect, investigate and evaluate water and wastewater systems. This includes obtaining data, preparing reconstruction cost new and/or original cost studies, cost of service studies and investigative reports, interpreting rules and regulations, and to suggest corrective action and provide technical recommendations on water and wastewater system deficiencies. I also provide written and oral testimony in rate cases and other cases before the Commission.

Q. How many companies have you analyzed for the Utilities Division?

A. I have analyzed approximately 90 companies covering these various responsibilities for Utilities Division Staff ("Staff").

Q. Have you previously testified before this Commission?

A. Yes, I have testified before this Commission.

Q. What is your educational background?

A. I graduated from Alabama University in Birmingham in 1987 with a Bachelor of Science degree in Civil Engineering.

Q. Briefly describe your pertinent work experience.

A. Before my employment with the Commission, I was an Environmental Engineer for the Arizona Department of Environmental Quality ("ADEQ"), for ten years. Prior to that time, I was an Engineering Technician with C. F. Hains, Hydrology in Northport, Alabama for approximately five years.

Q. Please state your professional membership, registrations, and licenses.

A. I am a member of the American Society of Civil Engineering ("ASCE") and American Water Works Association ("AWWA"). I am a registered Civil Engineer in Arizona.

PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony in this proceeding?

A. To present Staff's Engineering opinion of Las Quintas Serenas' arsenic treatment plant proposal. The Staff recommendations regarding plant disallowance and estimated costs contained in the Arsenic Treatment Project Section of my testimony are intended to reflect what Staff believes are plant expenditures and reasonable costs that are directly related to arsenic removal and thus appropriate for inclusion in the proposed Arsenic Remedial Surcharge Mechanism ("ARSM").

ARSENIC TREATMENT PROJECT

Q. Please briefly describe how the Company proposes to reduce the arsenic level in its water to the new arsenic standard which becomes effective in January 2006?

A. The Company proposes to install two Severn Trent arsenic treatment plants which are designed to use iron media as the adsorption material to remove the arsenic in order to comply with the new arsenic standard which is 10 micro grams per liter ("µg/l"). A 200 gallons per minute ("GPM") Severn Trent plant will be installed at Well Site No. 5 to treat groundwater from Well No. 5. Another 1,190 GPM Severn Trent plant would be installed at Well Site No. 6 to treat groundwater from both Well No. 6 and Well No. 7.

Q. Please briefly describe the Severn Trent plant operation.

A. Severn Trent's plant is designed to remove arsenic using the adsorption method. The adsorption media, which has the trademark name "SORB 33", must be backwashed periodically to maintain its efficiency. The water used to backwash the media is considered "wastewater"; this wastewater must be disposed of in accordance with the proper permit issued by ADEQ. The Company plans to store this wastewater on-site and then transport it to a Pima County wastewater treatment plant for treatment and disposal.

Q. Please briefly describe the other plant additions included in the Company's proposed Arsenic Treatment Project.

A. The Company lists sixteen items in the Arsenic Treatment Project. The sixteen items are: (1) site demolition and removal of abandoned facilities at each well site; (2) installation of piping at Well Site No. 6; (3) installation of concrete slabs at Well Sites 5 and 6 to support treatment equipment; (4) installation of 2,500 feet of 12-inch main between Wells 6 and 7; (5) installation of a new 400,000 gallon storage tank at Well Site No. 6; (6) installation of a new 1,000 gpm transfer booster pump station at Well Site No. 6; (7) installation of the

Severn Trent arsenic treatment system at Well Site No. 6; (8) installation of a new 13,400 gallon holding tank for backwash water at Well Site No. 6; (9) installation of the Severn Trent arsenic treatment system at Well Site No. 5; (10) installation of a holding tank for backwash water at Well Site No. 5; (11) installation of a backup generator at Well Site No. 6; (12) installation of fencing and flood prevention grading at Well Site No. 6; (13) well pump modifications[1] for Well Nos. 6 and 7; (14) installation of hypochlorite chlorination units at Well Sites 5, 6 and 7; (15) installation of sand separators at Well Sites 5, 6 and 7; and, (16) installation of a 3,000 gallon pressure tank at Well Site No. 6.

Q. **Does Staff agree that all the items listed above and included in the Company's proposed Arsenic Treatment Project are needed for arsenic treatment? Please explain.**

A. No. Staff recommends that item 5, installation of a new 400,000 gallon storage tank at Well Site No. 6, be excluded from the Arsenic Treatment Project. Staff's calculations show that the Company has adequate storage and production capacity at this time[2]. In addition, the Severn Trent system does not require storage capacity in its arsenic removal process.

Staff also recommends that item 11, installation of an emergency backup generator at Well Site No. 6, be excluded from the Arsenic Treatment Project. This emergency generator would supply energy to operate the controls and run the pumps when commercial power is interrupted.[3] Severn Trent does not recommend an emergency generator be installed for the proper operation of its treatment system. Staff has no reason

[1] The operation of Well Nos. 6 and 7 must be synchronized to prevent excess water pressure and damage to the new Severn Trent arsenic treatment plant.
[2] Staff's calculations show that the Company has adequate capacity to serve its existing customer base plus three hundred additional connections.
[3] Per the Company's response to Staff Data Request DMH 3-7 Trico Electric Cooperative is the provider of commercial power in the Company's CC&N area.

to believe an interruption in the supply of power to the water system would damage the Severn Trent treatment system or result in a health hazard through the pollution of treated groundwater. Severn Trent's treatment plant does not operate through the use of a high pressurized operating system which could cause the media to flow into the distribution system in violation of the Safe Drinking Water Act. The Severn Trent plant does not require the use of a computer operating system which could be damaged or difficult to operate if a total loss of power were to occur.[4] Finally, Staff recommends that item 14, installation of hypochlorite chlorination units at Well Sites 5, 6 and 7, be excluded from the Arsenic Treatment Project. Severn Trent's system does not require nor recommend that disinfection occur before delivering treated water.

Q. Please explain why Staff believes that item 16, the booster pump station and 3,000 gallons pressure tank, should be included in this Arsenic Treatment Project.

A. After the combined groundwater from Wells Nos. 6 and 7 has been treated by the Severn Trent arsenic removal treatment plant there may not be sufficient pressure to deliver the water throughout the distribution system. The proposed booster pump station and pressure tank should eliminate any potential low pressure problems.[5]

Q. Does Staff have any adjustments it would like to recommend be made to the Company's cost estimates for the purchase and construction of the plant items included in the Arsenic Treatment Project? Please explain.

A. Yes. Staff recommends that the cost estimate for item 4, installation of 2,500 feet of 12-inch main between Wells Nos. 6 and 7 be adjusted to reflect what Staff believes is a

[4] Staff would note that the Company does use a computerized system to operate its well pumps which are not part of the proposed arsenic treatment.

[5] Minimum water pressure requirements are expected to be maintained throughout the Well No. 5 system after Severn Trent's treatment plant has been installed therefore no booster station or additional pressure tank is needed for this system.

reasonable cost per foot to install this pipe. The Company estimated a unit cost for 12-inch main of approximately $65 dollars per foot which is much higher than the $36.70 per foot which Staff experienced as the statewide average installed cost during 2005.

Staff also recommends that the cost estimates for the holding tanks in items 8 and 10 be adjusted to what Staff believes is a reasonable cost per gallon to install these tanks. The Company plans to install a 13,400 gallon steel tank for holding backwash water at Well Site 6 and a 3,000 gallon polyethylene ("PE") tank to be used for holding backwash water at Well Site 5. The Company estimated a cost of $25,000 ($1.86 per gallon) for the steel tank and $4,000 ($1.33 per gallon) for the PE tank. Staff recommends adjusting these cost estimates from $25,000 to $13,400 and from $4,000 to $3,600. Staff's adjustments are based on $1.00 per gallon for a steel tank and $1.20 per gallon for a PE tank which is the typical installed costs Staff has experienced.

Finally, Staff recommends that the cost of the 3,000 gallon pressure tank in item 16 be reduced from the Company's estimate of $18,000 to $12,000 which again is based on a typical installed cost per gallon that Staff has experienced.

Q. Please summarize Staff's adjustments and recommendation to the Company's proposed Arsenic Treatment Project.

A. Staff concludes the Company's Arsenic Treatment Project adjusted to reflect Staff's recommendations is reasonable. Staff's recommended adjustments to the Company's proposal are reflected in the right hand column of the following table:

Description	Company's estimated cost ($)	Staff adjustments ($)
Site Demolition and Removal of Abandoned facilities at well sites	10,000	10,000
Site Piping Well Site No. 6	100,000	100,000
40 cubic yard concrete slabs for site equipment@ Well Nos. 5 & 6	14,000	14,000
2,500 feet of 12-inch pipelines between Well Nos. 6 & 7	162,500	91,750
One 400,000-gallon storage tank@ Well site No. 6	325,000	0
One 1,000-gpm transfer booster station @ Well site No. 6	120,000	120,000
One 1,190 gpm Severn Trent adsorption arsenic treatment system @ Well site No. 6	500,000	500,000
One 13,400 gallon steel backwash water holding tank @ Well site No. 6	25,000	13,400
One 200 gpm Severn Trent adsorption arsenic treatment system @ Well site No. 5	104,000	104,000
One 3,000 gallon PE backwash water holding tank @ Well site No. 5	4,000	3,600
One 130KW diesel generator @ Well site No. 6	80,000	0
Fencing, site grading work @ Well site No. 6	40,000	40,000
Well Pump modification for Well Nos. 6 and 7	15,000	15,000
Three hypochlorite chlorination units @ Well Nos. 5, 6 & 7	5,400	0
Three sand separators @ Well Nos. 5, 6 & 7	21,000	21,000
One 3,000 gallon pressure tank @ Well site No. 6	18,000	12,000
Subtotal	**1,558,900**	**1,059,750**
25% engineering & contingencies	**389,725**	**264,938**
Total	**1,948,625**	**1,324,688**

Staff's adjusted Arsenic Treatment Project amount total is $1,324,688, which is approximately $624,000 less than that proposed by the Company.

CONCLUSIONS

Q. What are Staff's conclusions regarding the Las Quintas Serenas' Arsenic Treatment Project?

A. Based upon Staff's engineering evaluation of the Las Quintas Serenas proposal, Staff concludes that the Arsenic Treatment Project is appropriate and that for purposes of an ARSM the cost of arsenic treatment should be $1,324,688. Staff makes no determination of the capital improvements as "used and useful" at this time, but defers this determination until the Company files its next rate application.

Q. Does this conclude your pre-filed testimony?

A. Yes, it does.

ZIVAN

BEFORE THE ARIZONA CORPORATION COMMISSION

JEFF HATCH-MILLER
Chairman
WILLIAM A. MUNDELL
Commissioner
MARC SPITZER
Commissioner
MIKE GLEASON
Commissioner
KRISTIN K. MAYES
Commissioner

IN THE MATTER OF THE APPLICATION OF LAS QUINTAS SERENAS WATER CO. FOR AN INCREASE IN ITS WATER RATES	DOCKET NO. W-01583A-04-0178
IN THE MATTER OF THE APPLICATION OF LAS QUINTAS SERENAS WATER CO. FOR AUTHORITY TO INCUR LONG-TERM INDEBTEDNESS TO FINANCE WATER SYSTEM IMPROVEMENTS AND ASSURE COMPLIANCE WITH NEW ARSENIC RULES	DOCKET NO. W-01583A-05-0326
IN THE MATTER OF THE APPLICATION OF LAS QUINTAS SERENAS WATER CO. FOR AN OPINION AND ORDER TO (I) RE-OPEN THE RECORD IN A RECENT RATE CASE SO AS TO CONSIDER EVIDENCE IN SUPPORT OF ANARSENIC COST RECOVERY MECHANISM, AND (II) MODIFY RATE CASE DECISION IN ORDER TO ADD AN ARSENIC COST RECORVERY MECHANISM AS AN AUTHORIZED RATE AND CHARGE	DOCKET NO. W-01583A-05-0340

DIRECT TESTIMONY

OF

DANIEL T. ZIVAN

PUBLIC UTILITIES ANASLYST III

UTILITIES DIVISION

JANUARY 25, 2006

I. INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is Daniel Zivan. I am a Public Utilities Analyst III employed by the Arizona Corporation Commission ("ACC" or "Commission") in the Utilities Division ("Staff"). My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. Briefly describe your responsibilities as a Public Utilities Analyst.

A. I am responsible for the examination and verification of financial and statistical information included in utility rate applications. In addition, I develop revenue requirements, analyze financial information related to financings, sales of assets and other matters. I am also responsible for preparing written reports, testimonies, and schedules that include Staff recommendations to the Commission and testifying at evidentiary hearings on these matters.

Q. Please describe your educational background and professional experience.

A. In 2001, I graduated from Arizona State University, receiving a Bachelor of Science degree in Global Business with a specialization in finance. My course of studies included classes in corporate and international finance, investments, accounting, and economics. In 2005, after three years of working in financial analysis, financial operations and accounting, I accepted employment with the Commission as a Public Utilities Analyst in the Financial and Regulatory Analysis Section. I have attended seminars on rate design, rate making and financial modeling during my employment with the Commission.

Q. During the course of your responsibilities of the Commission did you analyze the applications from Las Quintas Serenas Water Company for financing and for a surcharge mechanism to recover costs for arsenic treatment?

A. Yes I did. I prepared a Staff Report that describes my analysis and Staff's recommendations regarding LQS' request for financing approval and for a surcharge mechanism related to arsenic.

Q. Do you adopt that Staff Report as your testimony in this case?

A. Yes. The attached Staff Report is my testimony for this case.

MEMORANDUM

TO: Docket Control

FROM: Ernest G. Johnson
Director
Utilities Division

DATE: January 25, 2006

RE: STAFF REPORT FOR LAS QUINTAS SERENAS WATER CO. APPLICATION FOR FINANCING (DOCKET NOS. W-01583A-04-0178, W-01583A-05-0326 & W-01583A-05-0340)

Attached is the Staff Report for Las Quintas Serenas Water Co. application for financing and request to open a previous rate case to establish an arsenic cost recovery mechanism. Staff recommends authorization of a reduced financing amount and approval of an arsenic removal surcharge mechanism.

EGJ: DTZ:red

Originator: Daniel Zivan

Attachment: Original and sixteen copies

Service List for: Las Quintas Serenas Water Co.
Docket Nos. W-01583A-04-0178, W-01583A-05-0326 & W-01583A-05-0340

Mr. Steve Gay
General Manager/Operator
Las Quintas Serenas Water Company
16965 Camino De Las Quintas
PO Box 68
Sahuarita, Arizona 85629

Mr. Lawrence V. Robertson, Jr.
Munger Chadwick PLC
333 North Wilmot, Suite 300
Tucson, Arizona 85711-2634

Mr. John S. Gay
1241 West Calle De La Plaz
Sahuarita, Arizona 85629

Mr. Christopher C. Kempley
Chief Counsel, Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Mr. Ernest G. Johnson
Director, Utilities Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Ms. Lyn Farmer
Chief Administrative Law Judge, Hearing Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

STAFF REPORT
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION

LAS QUINTAS SERENAS WATER CO.

DOCKET NOS. W-01583A-04-0178, W-01583A-05-0326 & W-01583A-05-0340

APPLICATION FOR FINANCING

JANUARY 25, 2006

EXECUTIVE SUMMARY
LAS QUINTAS SERENAS WATER CO.
DOCKET NOS. W-01583A-04-0178,
W-01583A-05-0326 AND W-01583A-05-0340

Las Quintas Serenas Water Co. ("LQS" or "Applicant" or "Company"), an Arizona "C" Corporation located in Sahuarita, Arizona, provides potable water services to approximately 826 customers and standpipe water services to approximately 146 additional customers. LQS's current rates were approved in Decision No. 67455, dated January 6, 2005.

LQS originally filed a financing application with the Arizona Corporation Commission ("Commission"), Docket No. W-01583A-05-0326, on March 7, 2005 requesting authorization to incur $1,789,375 of long-term debt from either Commerce Bank of Arizona ("Commerce") or the Water Infrastructure Financing Authority ("WIFA") to finance the implementation of plant improvements that would reduce arsenic levels to comply with federal arsenic standards requiring that arsenic levels be reduced to 10 particles per billion ("ppb") by January 23, 2006 and plant improvements that are not arsenic-related. Then LQS filed a second application (Docket No. W-01583A-05-0339) requesting to re-open its previous rate case to consider its $1,789,375 financing and recovery of arsenic related operation and maintenance expenses. Then LQS filed a third application (Docket No. W-01583A-05-0340) that reduced the financing request to only arsenic treatment facilities, which LQS asserted to be $1,648,750. Docket No. W-01583A-05-0339 was administratively closed and Docket Nos. W-01583A-05-0326 and W-01583A-05-0340 were consolidated.

LQS proposes to borrow $1,648,750 from Commerce and then refinance with a loan from WIFA. LQS has submitted as part of its application an approval letter from Commerce stating that it has been approved for a 10-year amortizing loan in the amount of $1,650,000 with a fixed interest rate of 8.00 percent per annum. Closing costs for the Commerce loan are approximately $12,675. In contrast, the WIFA loan is 20-year amortizing with an estimated interest rate of 7.40 percent per annum and has no closing costs.

Staff has determined that the appropriate cost to construct LQS's proposed plant improvements is $1,324,688. Staff concludes that authorization of a loan for $1,324,688 is appropriate to finance the arsenic treatment plant. Issuance of a 20-year $1,324,688 amortizing loan at 7.40 percent with the operating income authorized in Decision No. 67455 would result in a 0.19 times interest earned ratio ("TIER") and a 0.52 debt service coverage ratio ("DSC"). A DSC of 0.52 demonstrates that LQS would not be able to meet debt obligations on such a loan with its existing rates. LQS would have even less ability to service debt on a 10-year amortizing loan. Accordingly, Staff concludes that approval of the Commerce loan is inappropriate. In order to provide LQS a pathway for servicing a 20-year loan, Staff recommends an arsenic removal surcharge mechanism ("ARSM").

An ARSM does not authorize the collection of surcharge revenue; however, it provides a method for determining the surcharge amount necessary to pay debt service obligations and additional income taxes that would result from the surcharge revenue. An ARSM requires LQS

financing. Staff calculated an estimated monthly surcharge of $12.85 for a 5/8x3/4-inch meter customer based on debt financing in the amount of $1,324,688.

LQS's existing capital structure is composed of 100 percent equity. A $1,324,688 20-year amortizing loan at 7.40 percent would result in a capital structure composed of 1.7 percent short-term debt, 75.9 percent long-term debt and 22.3 percent equity. The resulting highly leveraged capital structure could restrict LQS's ability to obtain additional debt financing, may result in less favorable terms for future financing and places upward pressure on rates.

Staff concludes that authorization for the Company to issue long-term debt to WIFA in an amount not to exceed $1,324,688 for the purposes stated in the application would be lawful and within LQS's corporate powers, compatible with the public interest, consistent with sound financial practice and would not impair its ability to provide services **if an ARSM is adopted**.

Staff recommends authorization for the Company to issue long-term debt to WIFA in an amount not to exceed $1,324,688 only if Staff's recommended ARSM is approved.

Staff recommends denial of the Company's request to borrow any funds from Commerce.

Staff further recommends granting no provision for operation and maintenance expense ("O&M") in this proceeding because the amount is not known and measurable, any unrecovery of O&M is offset by anticipated surcharge profits and is consistent with the Commission's normal practice.

TABLE OF CONTENTS

PAGE

Introduction 1
Background 1
Purpose of Financing 1
Description of Proposed Financing 1
Financial Analysis 2
Compliance 4
Engineering Analysis 4
Operating and Maintenance Expenses 4
Staff Conclusions and Recommendations 4

SCHEDULES

SELECTED FINANCIAL DATA WITH IMMEDIATE EFFECTS OF THE RECOMMENDED DEBT AND ARSM SURCHARGE ..... Schedule DTZ -1

CALCULATION OF ARSM SURCHARGE REVENUE REQUIRED TO PRESERVE CASH FLOW WITH WIFA LOAN ..... Schedule DTZ -2

CONVERSION FACTOR TABLE ..... Schedule DTZ -3

ATTACHMENTS

EXHIBIT A

INTRODUCTION

Las Quintas Serenas Water Co. ("LQS" or "Applicant" or "Company"), an Arizona "C" Corporation located in Sahuarita, Arizona, filed an application for financing with the Arizona Corporation Commission ("Commission") on March 7, 2005. LQS proposes to borrow $1,648,750 from Commerce Bank of Arizona ("Commerce") and then refinance the debt with a loan from the Water Infrastructure Financing Authority ("WIFA"). The loan proceeds will be used to fund implementation of water system improvements in order to comply with the Safe Drinking Water Act which requires that arsenic levels be reduced to 10 particles per billion ("ppb") by January 23, 2006. The Company also requests to recover an estimated $21,000 annually of operations and maintenance expense related to the proposed arsenic removal facilities.

BACKGROUND

LQS is an Arizona "C" Corporation that provides potable water services to approximately 826 customers and standpipe water services to approximately 146 additional customers. LQS' current rates were approved in Decision No. 67455, dated January 6, 2005. On January 23, 2001, the Environmental Protection Agency ("EPA") reduced the drinking water maximum contaminant level of arsenic from 50 ppb to 10 ppb. All community water systems are required to comply with the new federal rule by January 23, 2006.

LQS originally filed a financing application, Docket No. W-01583A-05-0326, on March 7, 2005, requesting authorization to incur $1,789,375 of long-term debt to finance the implementation of plant improvements that would reduce arsenic levels to comply with the new federal rule and plant improvements that are not related to arsenic. Then LQS filed a second application[1] requesting to re-open its previous rate case to include consideration of its $1,789,375 financing. Then LQS filed a third application[2] requesting to re-open its previous rate case only for consideration of financing related to arsenic removal, which LQS asserted to be $1,648,750. The Docket for the second application was administratively closed and Docket Nos. W-01583A-05-0326 and W-01583A-05-0340 were consolidated.

PURPOSE OF FINANCING

The purpose of the financing is to provide LQS with sufficient funds to construct arsenic treatment equipment necessary to comply with EPA arsenic standards.

DESCRIPTION OF PROPOSED FINANCING

LQS proposes to borrow $1,648,750 from Commerce and then refinance the debt with a WIFA loan. In essence, the Company proposes to use the Commerce debt as a bridge loan.[3] The

[1] Docket No. W-01583A-05-0339
[2] Docket No. W-01583A-05-0340
[3] Direct testimony of Ronald L. Kozoman; Page 11, Line 14

Commerce loan would be amortized over a period of 10 years and have a fixed interest rate of 8.00 percent per annum. Additionally, Commerce would charge a fee of $300 to process documentation as well as a loan origination fee of .75 percent which would amount to $12,375. In total, LQS would incur $12,675 of closing costs should it obtain the proposed financing from Commerce. The WIFA loan would be amortized over a period of 20 years and would have a fixed interest rate of approximately 7.40 percent per annum, equal to the prime rate (7.25 percent as of January 20, 2006) plus 200 basis points multiplied by .80. No closing costs are applicable to the WIFA loan.

FINANCIAL ANALYSIS

Staff has concluded that the construction cost for the proposed plant improvement is $1,324,688 (see Engineering Analysis). Accordingly, Staff's financial analysis is based on that amount of debt issuance. Table 1 presents a summary of the WIFA and Commerce loan options.

TABLE 1

	WIFA Loan[4]	Commerce Loan[5]
Closing Costs	$0	$12,675
Interest Rate	7.40%	8.00%
Amortization Period	20 years	10 years
Average Monthly Payment	$10,672	$16,072

Schedule DTZ-1, Column A, presents financial information that reflects Decision No. 67455 and shows a capital structure composed of 100 percent equity. Column C is the same as Column A modified to reflect the issuance of Staff's recommended debt in the amount of $1,324,688. Issuance of the recommended debt would produce a 0.19 times interest earned ratio ("TIER") and a 0.52 debt service coverage ratio ("DSC"). A DSC of 0.52 demonstrates that LQS would not be able to meet all of its obligations with its existing operating income.

The TIER represents the number of times earnings cover interest expense on long-term debt. A TIER greater than 1.0 means that operating income is greater than interest expense. A TIER less than 1.0 is not sustainable in the long term but does not mean that debt obligations cannot be met in the short term.

The DSC represents the number of times internally generated cash will cover required principal and interest payments on long-term debt. A DSC greater than 1.0 indicates that operating cash flow is sufficient to cover debt obligations. A DSC less than 1.0 means that debt service obligations cannot be met by cash generated from operations and that another source of funds is needed to avoid default.

[4] Payment calculated with a loan amount of $1,324,688, an interest rate of 7.5 percent and a loan amortization of 20 years.
[5] Payment calculated with a loan amount of $1,324,688, an interest rate of 8 percent and a loan amortization of 10 years.

The Commission has previously authorized an ARSM to assist small water utilities to obtain debt financing they could not otherwise service for arsenic treatment plant. An ARSM provides a method for determining the surcharge amount necessary to pay debt service obligations on any authorized financing and the additional income taxes resulting from the surcharge revenue. An ARSM does not authorize the collection of surcharge revenue. An ARSM requires LQS to file a separate surcharge request for the Commission's consideration after it obtains any authorized financing. Staff concludes that an ARSM is necessary for the Applicant to obtain sufficient financing for capital improvements needed to meet the 10 ppb maximum contaminant level for arsenic.

Schedule DTZ-2 presents a calculation of the additional annual revenue needed by LQS to service a $1,324,688 WIFA loan and to maintain the same level of cash flow resulting from Decision No. 67455[6]. The Applicant would need additional revenue in the amount of $29,715 for principle repayments, $98,344 for interest expense and $12,241 for income taxes for a total of $140,300.

Schedule DTZ-1 Column E shows that $140,300 of additional revenue would produce a 1.61 TIER and a 1.61 DSC with a $1,324,688 WIFA loan. A DSC of 1.61 demonstrates that LQS would be able to meet all of its obligations. Column E also shows that the pro forma capital structure that would result from this loan is highly leveraged consisting of 1.7 percent short-term debt, 75.9 percent long-term debt and 22.3 percent equity.

A highly leveraged capital structure is a concern for Staff because it restricts a utility's ability to obtain additional debt financing, may result in less favorable terms for future financing and places upward pressure on rates. However, there are no other known alternatives available to LQS to finance the implementation of the necessary arsenic removal facilities. LQS needs the arsenic treatment facilities to comply with the Safe Drinking Water Act's new arsenic levels and to deliver safe water.

Table 1 above shows that the monthly payment on the Commerce loan is $5,400 ($16,072 - $10,672) greater than the WIFA loan. Meeting the debt service on the lower cost WIFA loan can only be achieved via a surcharge. The Applicant does not have sufficient cash flow for the WIFA loan and requires a surcharge to meet debt service requirements. The Commerce loan would require a larger surcharge than the WIFA loan. In addition, obtaining the Commerce loan requires incurring closing costs of $12,675. The closing costs significantly increase the cost for a temporary bridge loan. The principal portion of the debt service, which is anticipated to be covered by a surcharge, represents profit to the Applicant. A surcharge for the Commerce loan includes a higher principal component than would a surcharge for the WIFA loan. This additional surcharge represents a windfall profit that is unnecessary for customers to pay. In addition, refinancing the surcharge would call for resetting the surcharge to a level for the WIFA loan, an undesirable regulatory complication. Accordingly, Staff concludes that the Commerce loan is inappropriate.

---

[6] Assuming continuation of the operating revenue and expenses authorized in Decsion No. 67544.

Staff calculated an estimated monthly surcharge of $12.85 for a 5/8x3/4-inch meter customer based on debt financing in the amount of $1,324,688. Staff's surcharge calculation methodology and the resulting estimated surcharges for other meter sizes is presented in Exhibit A.

COMPLIANCE

There are no compliance issues with Las Quintas Serenas Water Co.

ENGINEERING ANALYSIS

Staff's Engineering analysis is presented in the attached memorandum. Staff reviewed the material cost estimates to construct the proposed plant improvements. Staff concludes that the appropriate cost to construct LQS's proposed plant improvements is $1,324,688. Staff makes no "used and useful" determination in this proceeding. Treatment of the proposed plant improvements for rate-making purposes is deferred to a future rate proceeding.

OPERATING AND MAINTENANCE EXPENSES

The Commission's normal practice is not to allow operating and maintenance expense ("O&M") related to arsenic treatment when an ARSM is established. The amount of O&M is not known and measurable. Further, any under-recovery of O&M by the Applicant would be offset by the recovery of the principal portion of the loan included as a component of the anticipated surcharge. Accordingly, Staff concludes that no provision for recovery of O&M should be granted in this proceeding.

STAFF CONCLUSIONS AND RECOMMENDATIONS

Staff concludes that the construction of arsenic removal equipment is necessary for LQS to comply with the Safe Drinking Water Act's new arsenic level of 10 ppb effective January 23, 2006 and that $1,324,688 is a reasonable estimated cost.

Staff concludes that the proposed use of funds is appropriate and that LQS' current rates are insufficient to service the recommended debt.

Staff concludes that an arsenic removal surcharge mechanism should be adopted to provide the Applicant with a method for determining the surcharge amount necessary to pay debt service obligations on any authorized financing and the additional income taxes resulting from the surcharge revenue.

Staff concludes that authorization to issue $1,324,688 of debt to WIFA would be lawful and within the corporate powers of the Applicant, compatible with the public interest, consistent with sound financial practices, and would not impair LQS's ability to provide service if an arsenic removal surcharge mechanism is adopted.

Staff recommends authorizing an arsenic removal surcharge mechanism in order to provide LQS with a mechanism for applying for a surcharge to meet debt service requirements associated with the proposed financing.

Staff recommends that LQS be required to file the arsenic surcharge filing within 15 days of the loan closing.

Staff further recommends that LQS be required to calculate its proposed surcharge tariff using the actual loan principal and interest components and the same methodology that Staff used to determine the estimated surcharge amount (Exhibit A).

Staff further recommends denial of the request to obtain financing from Commerce.

Staff further recommends authorizing the Company to engage in any transactions and to execute any documents necessary to effectuate the authorizations granted.

Staff further recommends denial of the Company's request to recover $21,000 in annual operations and maintenance expense.

Las Quintas Serenas Water Company
Docket No.'s W-01583A-05-0326 and W-01583A-05-0340
Test Year Ended September 30, 2003

Schedule DTZ-1

FINANCIAL ANALYSIS

Selected Financial Data with Immediate Effects of the Recommended Debt with ARSM Surcharge

INCOME STATEMENT	[A] ACC Decision No. 67455	[B] Pro Forma Change	[C] ACC Decision No. 67455 including long-term debt	[D] Pro Forma Change	[E] Pro Forma Result
Operating Revenue	$ 295,613		$ 295,613		$ 295,613
Surcharge	-			$ 140,300	140,300
Total Revenue	295,613		295,613	140,300	435,913
Income taxes	3,458		3,458	12,241	15,699
Other Operating Expenses	277,353		277,353	-	277,353
Total Operating Expenses	280,811		280,811	12,241	293,052
Operating Income	14,802		14,802	128,059	142,861
Interest Expense	-	98,344	98,344	-	98,344
Net Income	14,802		(83,542)	128,059	44,517
Principal Repayment	-	29,715	29,715	-	29,715
TIER (Interest Coverage)	N/A		0.19	1.61	
DSC	N/A		0.52	1.61	

Short-term Debt	$ -	0%	$ 29,715	1.7%	$ 29,715	1.7%
Long-term Debt	$ -	0%	$ 1,294,972	75.9%	$ 1,294,972	75.9%
Common Equity	$ 380,401	100%	$ 380,401	22.3%	$ 380,401	22.3%
Total Capital	$ 380,401	100%	$ 1,705,089	100.0%	$ 1,705,089	100.0%

[A] Operating income approved in Decision No. 67455
[B] Interest expense and principal repayment from DTZ-2
[C] Operating income approved in Decision No. 67455 with effect of recommended long-term debt
[D] ARSM surcharge revenue and incremental income taxes from DTZ-2
[E] Operating income approved in Decision No. 67455 with effects of recommended long-term debt and ARSM surcharge revenue

Las Quintas Serenas Water Company
Docket No.'s W-01583A-05-0326 and W-01583A-05-0340
Test Year Ended September 30, 2003

Schedule DTZ-2

Line No.	CALCULATION OF ARSM SURCHARGE REVENUE REQUIRED TO PRESERVE CASH FLOW WITH WIFA LOAN	
1	Annual Principal Payment on the Loan	$ 29,715
2	Gross Revenue Conversion Factor	1.4120
3	Increase in Revenue Due to Principal Payment [L1 X L2]	$ 41,957
4	Annual Principal Payment on the Loan [L1]	$ 29,715
5	Incremental Income Taxes [L3 - L4]	$ 12,241
6	Annual Interest Payment on the Loan	$ 98,344
7	Debt Service Component of Incremental Revenue [L1+L6]	$ 128,059
8	Total Incremental Revenue Requirement [L5 + L7]	$ 140,300

Las Quintas Serenas Water Company Schedule DTZ-3
Docket No.'s W-01583A-05-0326 and W-01583A-05-0340
Test Year Ended September 30, 2003

TABLE A

Conversion Factor Table (Based on a 20-year Loan)

Line No.	Column A Annual Interest	Column B Annual Payment Conversion Factor	Column C Annual Interest Payment Conversion Factor	Column D Annual Principal Payment Conversion Factor
1	3.50%	0.0696	0.0344	0.0352
2	3.75%	0.0711	0.0369	0.0342
3	4.00%	0.0727	0.0394	0.0333
4	4.25%	0.0743	0.0419	0.0324
5	4.50%	0.0759	0.0444	0.0316
6	4.75%	0.0775	0.0468	0.0307
7	5.00%	0.0792	0.0493	0.0299
8	5.25%	0.0809	0.0518	0.0291
9	5.50%	0.0825	0.0543	0.0283
10	5.75%	0.0843	0.0568	0.0275
11	6.00%	0.0860	0.0593	0.0267
12	6.25%	0.0877	0.0618	0.0259
13	6.50%	0.0895	0.0643	0.0252
14	6.75%	0.0912	0.0668	0.0245
15	7.00%	0.0930	0.0692	0.0238
16	7.25%	0.0948	0.0717	0.0231
17	7.50%	0.0967	0.0742	0.0224
18	7.75%	0.0985	0.0767	0.0218
19	8.00%	0.1004	0.0792	0.0211

Instructions to Calculate the Annual Surcharge Revenue Requirement on the Loan

Step 1. Find the Annual Payment on the Loan
Refer to Table A, the Conversion Factor Table. Reading the table from top to bottom, find the interest rate in column A that is equal to the stated annual interest rate of the loan. Reading across the table, find the Annual Payment Conversion Factor in Column B that corresponds with the loan interest rate (in the event that the loan interest rate is different from the interest rates in Table A, use the next higher interest rate that can be found in Table A). Multiply that annual payment conversion factor by the total amount of the loan to calculate the annual debt service on the loan.

Annual payment conversion factor
(*) Times total amount of the loan
(=) Equals annual debt service on the loan

Step 2. Find the Annual Interest Payment on the Loan
Refer to Table A and find the annual interest payment conversion factor in Column C that corresponds with the stated annual interest rate of the loan. Multiply the annual interest payment conversion factor by the total amount of the loan to calculate the annual interest expense on the loan.

Annual interest payment conversion factor
(*) Times total amount of the loan
(=) Equals annual interest expense on the loan

Step 3. Find the Annual Principal Payment on the Loan
Refer to Table A and find the annual principal payment conversion factor in Column D that corresponds with the stated annual interest rate of the loan. Multiply the annual principal payment conversion factor by the total amount of the loan to calculate the annual principal payment on the loan.

Annual principal payment conversion factor
(*) Times total amount of the loan
(=) Equals annual principal payment on the loan

Step 4. Find the *Gross Revenue Conversion Factor*[1] (GRCF)
The GRCF calculated below is used in step 5.

$$\text{GRCF} = \frac{1}{1 - \text{Effective incremental income tax rate}^{2}}$$

$$\text{GRCF} = \frac{1}{1 - 0.2918} = \frac{1}{0.7082} = 1.4120$$

Step 5. Find the Incremental Income Tax Factor
The incremental income tax factor is calculated below:

Incremental Income Tax Factor = GRCF - 1

= 1.4120 - 1

= 0.4120

Step 6. Find the Annual Income Tax Component of the Surcharge Revenue
Multiply the incremental income tax factor by the annual principal payment on the loan determined in step 3 to calculate the income tax component of the annual surcharge revenue.

Incremental income tax conversion factor
(*) Times the annual principal payment on the loan
(=) Equals the annual income tax component of the annual surcharge revenue

Step 7. Find the Debt Service Component of the Annual Surcharge Revenue
Add the annual interest expense on the loan determined in step 2 to the annual principal payment determined in step 3. The sum is the debt service component of the annual surcharge revenue.

Annual interest payment on the loan
(+) Plus annual principal payment
(=) Equals the debt service component of the annual surcharge revenue

[1] The gross revenue conversion factor indicates the incremental revenue required to increase operating income by one dollar.
[2] The effective income tax rate represents the effective tax rate on the incremental income. Use the effective incremental income tax rate of 29.1762%.

Step 8. Find the Total Annual Surcharge Revenue Requirement Needed for the Loan.
Add the annual income tax component determined in step 6 to the annual debt service component determined in step 7. The sum equals the annual surcharge revenue requirement for the loan.

Annual income tax component of the surcharge revenue
(+) Plus annual debt service component of the surcharge revenue
(=) Equals the total annual surcharge revenue requirement for the loan

Instruction for Step 9
Step 9. Find the equivalent bills.
Multiply the NARUC meter capacity multiplier by the number of current customers and by the number of months per year. The sum of the products equals the equivalent bills.

Result

Col A	Col B	Col C	Col D	Col E
Meter Size	**NARUC Meter Capacity Multiplier**	**Number of Customers**	**Number of Months In Year**	**Equivalent Bills Col B x C x D**
5/8"x 3/4" Meter	1	0	12	0
3/4" Meter	1.5	0	12	0
1" Meter	2.5	0	12	0
1½" Meter	5	0	12	0
2" Meter	8	0	12	0
3" Meter	15	0	12	0
4" Meter	25	0	12	0
6" Meter	50	0	12	0
			Total	**0**

Instruction for Step 10
Step 10. Find the monthly surcharge for 5/8" x 3/4" customers.
Divide the result obtained in step 8 by the number of equivalent bills calculated in step 9 to obtain the monthly surcharge for 5/8" x 3/4" customers.

Result

$140,300	Total annual surcharge revenue requirement for the loan (Step 8)
÷ 10,920	Number of equivalent bills
$ 12.85	Total monthly surcharge for 5/8" x 3/4" customers

Las Quintas Serenas Water Co. Exhibit A
Docket No. W-01583A-05-0326 and W-01583A-05-0340
Application for Financing

Instruction for Step 11

Step 11. Find the monthly surcharge for remaining meter size customers.

Multiply the Result obtained in step 10 by the NARUC meter capacity multipliers to obtain the monthly surcharges for all other meter sizes.

Col A	**Col B**	**Col C**	**Col D**
Meter Size	**NARUC Meter Capacity Multiplier**	**5/8" x 3/4" Customers' Surcharge**	**Surcharge by Meter Size Col B x C**
5/8"x 3/4" Meter	1	$0.00	$ 0.00
3/4" Meter	1.5	$0.00	$ 0.00
1" Meter	2.5	$0.00	$ 0.00
1½" Meter	5	$0.00	$ 0.00
2" Meter	8	$0.00	$ 0.00
3" Meter	15	$0.00	$ 0.00
4" Meter	25	$0.00	$ 0.00
6" Meter	50	$0.00	$ 0.00

Example

Loan amount: $1,324,688
Term: 20 years
Stated Annual Interest Rate: 7.50%

Instruction for Step 1
Step 1. Find the Annual Payment on the Loan
Refer to Table A, the Conversion Factor Table. Reading the table from top to bottom, find the interest rate in column A that is equal to the stated annual interest rate of the loan. Reading across the table, find the Annual Payment Conversion Factor in Column B that corresponds with the loan interest rate (in the event that the loan interest rate is different from the interest rates in Table A, use the next higher interest rate that can be found in Table A). Multiply that annual payment conversion factor by the total amount of the loan to calculate the annual debt service on the loan. Rounding errors may occur.

Result

0.0967	Annual Payment Conversion Factor (Table A, Line 17, Column B)
x $1,324,688	Total loan amount
$ 128,097	Annual loan payment

Instruction for Step 2
Step 2. Find the Annual Interest Payment on the Loan
Refer to Table A and find the annual interest payment conversion factor in Column C that corresponds with the stated annual interest rate of the loan. Multiply the annual interest payment conversion factor by the total amount of the loan to calculate the annual interest expense on the loan. Rounding errors may occur.

Result

0.0742	Table A, Line 14, Column C
x $1,324,688	Total loan amount
$ 98,344	Annual interest expense

Instruction for Step 3
Step 3. Find the Annual Principal Payment on the Loan
Refer to Table A and find the annual principal payment conversion factor in Column D that corresponds with the stated annual interest rate of the loan. Multiply the annual principal payment conversion factor by the total amount of the loan to calculate the annual principal payment on the loan. Rounding errors may occur.

Result

0.0224	Table A, Line 14, Column D
x $1,324,688	Total loan amount
$ 29,715	Annual principal payment

Instruction for Step 4
Step 4. Find the *Gross Revenue Conversion Factor* (GRCF)
The GRCF calculated below is used in step 5.

Result

$$\text{GRCF} = \frac{1}{1 - \text{Effective incremental income tax rate}}$$

$$\text{GRCF} = \frac{1}{1 - 0.2918} = \frac{1}{0.7082} = 1.4120$$

Instruction for Step 5
Step 5. Find the Incremental Income Tax Factor
The incremental income tax factor is calculated below:

Result

$$\begin{aligned} \text{Incremental Income Tax Factor} &= \text{GRCF} - 1 \\ &= 1.4120 - 1 \\ &= 0.4120 \end{aligned}$$

Instruction for Step 6
Step 6. Find the Annual Income Tax Component of the Surcharge Revenue
Multiply the incremental income tax factor by the annual principal payment on the loan determined in step 3 to calculate the income tax component of the annual surcharge revenue. Rounding errors may occur.

Result

0.4120	Incremental income tax factor (Step 5)
x $29,715	Annual principal payment
$12,242	Annual income tax component of the annual surcharge revenue

Instruction for Step 7
Step 7. Find the Debt Service Component of the Annual Surcharge Revenue
Add the annual interest expense on the loan determined in step 2 to the annual principal payment determined in step 3. The sum is the debt service component of the annual surcharge revenue.

Result

$98,344	Annual interest expense (Step 2)
+ $29,715	Annual principal payment (Step 3)
$128,059	Debt service component of the annual surcharge revenue

Instruction for Step 8

Step 8. Find the Total Annual Surcharge Revenue Requirement Needed for the Loan.
Add the annual income tax component determined in step 6 to the annual debt service component determined in step 7. The sum equals the annual surcharge revenue requirement for the loan.

Result

$12,241	Annual income tax component (Step 6)
+ $128,059	Debt service component (Step 7)
$140,300	Total annual surcharge revenue requirement for the loan

Instruction for Step 9

Step 9. Find the equivalent bills.
Multiply the NARUC meter capacity multiplier by the number of current customers and by the number of months per year. The sum of the products equals the equivalent bills.

Result

Col A	**Col B**	**Col C**	**Col D**	**Col E**
Meter Size	**NARUC Meter Capacity Multiplier**	**Number of Customers**	**Number of Months In Year**	**Equivalent Bills Col B x C x D**
5/8"x 3/4" Meter	1	754	12	9,048
3/4" Meter	1.5	1	12	18
1" Meter	2.5	37	12	1110
1½" Meter	5	6	12	360
2" Meter	8	4	12	384
3" Meter	15	0	12	0
4" Meter	25	0	12	0
6" Meter	50	0	12	0
			Total	**10,920**

Las Quintas Serenas Water Co. Exhibit A
Docket No. W-01583A-05-0326 and W-01583A-05-0340
Application for Financing

Instruction for Step 10
Step 10. Find the monthly surcharge for 5/8" x 3/4" customers.
Divide the result obtained in step 8 by the number of equivalent bills calculated in step 9 to obtain the monthly surcharge for 5/8" x 3/4" customers.

Result

$140,300	Total annual surcharge revenue requirement for the loan (Step 8)
÷ 10,920	Number of equivalent bills
$ 12.85	Total monthly surcharge for 5/8" x 3/4" customers

Instruction for Step 11
Step 11. Find the monthly surcharge for remaining meter size customers.
Multiply the Result obtained in step 10 by the NARUC meter capacity multipliers to obtain the monthly surcharges for all other meter sizes.

Col A	**Col B**	**Col C**	**Col D**
Meter Size	**NARUC Meter Capacity Multiplier**	**5/8" x 3/4" Customers' Surcharge**	**Surcharge by Meter Size Col B x C**
5/8"x 3/4" Meter	1	$12.85	$ 12.85
3/4" Meter	1.5	$12.85	$ 19.28
1" Meter	2.5	$12.85	$ 32.13
1½" Meter	5	$12.85	$ 64.25
2" Meter	8	$12.85	$ 102.80
3" Meter	15	$12.85	$ 192.75
4" Meter	25	$12.85	$ 321.25
6" Meter	50	$12.85	$ 642.50