AMENDED AND APPROVED

IMMEDIATE RECONSIDERATION FAILED 6-6-06

Submitted by:

Chair of the Assembly at the

Request of the Mayor

Prepared by:

**Anchorage Water & Wastewater Utility** 

For reading:

May 23, 2006

ANCHORAGE, ALASKA No. AO 2006-88

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AN ORDINANCE OF THE MUNICIPALITY OF ANCHORAGE, ALASKA, APPROVING SUBMISSION BY THE ANCHORAGE WATER & WASTEWATER UTILITY ON BEHALF OF THE ANCHORAGE WASTEWATER UTILITY (ASU) OF PROPOSED RATE CHANGES TO THE REGULATORY COMMISSION OF ALASKA.

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#### THE ANCHORAGE ASSEMBLY ORDAINS:

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<u>Section 1.</u> Rate changes to the tariff of Anchorage Wastewater Utility (ASU), as reflected in the "Anchorage Wastewater Utility Test Year 2004 Comprehensive Cost of Service Rate Study" for 2006 rates, attached to the Assembly Memorandum and incorporated herein by reference, are hereby approved for submission to the Regulatory Commission of Alaska.

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Section 2. Whereas, the Anchorage Assembly has taken public testimony which questions and challenges the 141% percentage increase for septic haulers, the following concerns are being communicated to the RCA for critical analysis:

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· assumptions built into the model

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equitability between the rate classes
the percentage increase of the septic hauler rates (See Table ES-3)

24 25 • rate design (capacity charge) for septic haulers (See Table ES-6, Sumary of the Cost of Service Analysis)

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Based on these significant concerns, the Anchorage Assembly requests the RCA to fully review and critically analyze this cost of service study.

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Section 23. This Ordinance is effective immediately upon passage and approval by the Anchorage Assembly.

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PASSED AND APPROVED by the Anchorage Assembly this \_\_\_\_\_ day of \_\_\_\_\_, 2006.

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Danul A. Sullwan
Chair

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Sala 5 Sulnst Municipal Clerk

ATTEST:

#### **MUNICIPALITY OF ANCHORAGE**

#### **ASSEMBLY MEMORANDUM**

**No.** AM 393 -2006

Meeting Date: May 23, 2006

From:

**MAYOR** 

Subject: AN ORDINANCE OF THE MUNICIPALITY OF ANCHORAGE, ALASKA, APPROVING SUBMISSION BY THE ANCHORAGE WATER & WASTEWATER UTILITY ON BEHALF OF THE ANCHORAGE WASTEWATER UTILITY (ASU) OF PROPOSED RATE CHANGES TO THE REGULATORY COMMISSION OF ALASKA.

The Administration has submitted an ordinance concurrent with this memorandum for review and approval by the Assembly of submission by the Anchorage Water & Wastewater Utility (AWWU) of a 2004 test year (TY) wastewater cost of service analysis (COSA) to the Regulatory Commission of Alaska (RCA).

AWWU filed a 2004 TY Revenue Requirements Study with the RCA on November 10, 2005. The RCA suspended the filing for further investigation and granted Anchorage Wastewater Utility (ASU) interim rates effective January 9, 2006. In addition, the RCA required ASU to file a COSA by June 26, 2006.

AWWU hired an independent consultant, HDR Engineering, Inc. (HDR), to prepare the Study in accordance with the regulations and practices prescribed by the RCA and Alaska Statutes. The purpose of the Study is to determine the cost of serving each class of customer and then design rates to ensure one class of customers is not subsidizing another class of customers. The study is revenue neutral to the Utility. The results of the COSA are presented in the following table:

S	ummary	of ASU (	Cost of Se	rvice An	alysis (	\$1,000%	s)	
	Total	Residential	Multi- Family	Sanitary Landfill	Septic Haulers	Comm. Low	Comm. Medium	Comm High
Proposed Rate Rev's	\$28,906	\$15,985	\$7,026	\$120	\$337	\$2,674	\$1,962	\$802
Allocated Rev. Req.	28,906	14,937	6,437	110	815	2,889	2,722	996
\$ Difference	\$0	\$1,048	\$589	\$10	(\$478)	(\$215)	(\$760)	(\$194
% Difference	0.0%	(6.6%)	(8.4%)	(8.6%)	141.7%	8.0%	38.8%	24.2%
# Accounts	54,711	47,344	3,771	1	27	2,623	507	438

### Impacts of the Study

The Utility uses uniform rates for customer charges, unmetered usage charge per dwelling unit, and metered volume rate. These basic rate components make up the individual customer rates.

	2006 Current	2006 COSA
	Proposed	Proposed
Customer Charge	\$ 5.00	\$ 4.72
Flat Residential Usage Charge per unit- includes I&I	21.30	19.54
Inflow and Infiltration Charge per unit	3.50	NA
Metered Volume rate per 1,000 gallons:		
Residential	2.49	3.06
Commercial Low Strength	2.38	2.69
Commercial Medium Strength	2.71	3.57
Commercial High Strength	3.32	4.19

### **Typical Customer Rate Impacts**

The single-family residential wastewater charge would decrease by \$2.04 from the current proposed charge of \$26.30 to \$24.26 per month.

### **AWWU Board Approval**

HDR Engineering presented the results of the COSA to the AWWU Board in detail at the April 4, 2006 AWWU Authority Board meeting. The results of the COSA indicate the customer class most affected is the septic hauler customer class who should receive a 141% rate increase to cover the costs associated with providing service to them. As a result, AWWU sent a letter to each individual septic hauler customer informing them of the COSA results and providing notice of a public hearing on May 10, 2006 before the AWWU Authority Board to provide the opportunity for public comment. There was no public testimony during this public hearing. The AWWU Authority Board unanimously approved the COSA results and rate structure as presented in the COSA at the May 10 meeting.

THE ADMINISTRATION RECOMMENDS APPROVAL OF AN ORDINANCE APPROVING SUBMISSION BY THE ANCHORAGE WATER & WASTEWATER UTILITY ON BEHALF OF THE ANCHORAGE WASTEWATER UTILITY (ASU) OF PROPOSED RATE CHANGES TO THE REGULATORY COMMISSION OF ALASKA.

## AM - ASU Cost of Service Analysis Proposed Rate Changes

1 | Prepared by: Anchorage Water & Wastewater Utility

2 Recommended by: Mark Premo, P.E., General Manager, AWWU

3 Concur Janet Mitson, Director, Office of Management and Budget

4 Concur: Frederick H. Boness, Municipal Attorney
5 Concur: Denis C. LeBlanc, Municipal Manager

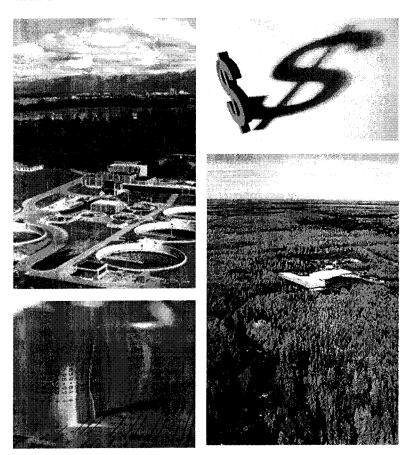
Respectfully submitted: Mark Begich, Mayor

## **Draft Final Report**

# **Anchorage Wastewater Utility**

# Test Year 2004 Comprehensive Cost of Service Rate Study

### March 2006





April 4, 2006

Mr. Mark Premo, P.E. General Manager Anchorage Water and Wastewater Utility 3000 Arctic Blvd. Anchorage, Alaska 99503

Dear Mr. Premo:

HDR Engineering Inc. (HDR) is pleased to provide the draft final report on the wastewater cost of service study recently completed for the Anchorage Water and Wastewater Utility (AWWU). This report contains a discussion of the process used to develop the wastewater cost of service study. In addition, contained in the Technical Appendix of this report is a complete set of the exhibits used to develop the study.

This study has been prepared using generally accepted wastewater rate setting techniques, adapted for the specific circumstances associated with the Anchorage Wastewater Utility (ASU). The accounting, budgeting, billing records, and current revenue requirement analysis for the ASU were the primary sources for the data contained within the report.

I appreciate your contributions and assistance, along with that of AWWU's management team, in the development of this report. Thank you for the opportunity to provide this technical assistance. I hope we have the opportunity to work together again in the future.

Sincerely yours,

HDR Engineering, Inc.

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Tom Gould Vice President

HDR Engineering, Inc.

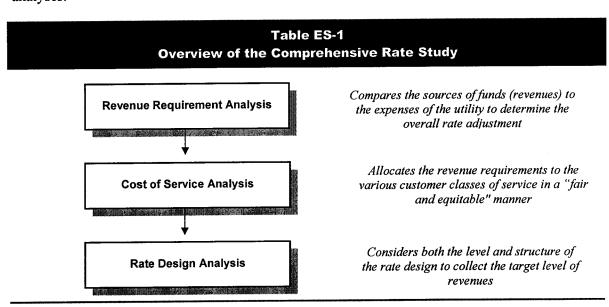
# **Executive Summary**

#### Introduction

HDR Engineering, Inc. (HDR) was retained by the Anchorage Water and Wastewater Utility (AWWU) to perform a comprehensive cost of service study, or rate study, for the Anchorage Wastewater Utility (ASU) 2004 Test Year (TY). A comprehensive rate study reviews both the adequacy of ASU's current rates, as well as the fairness and equity of the current rates. This study provides the decision framework for any needed future adjustments.

## **Overview of the Rate Study Process**

A comprehensive wastewater rate study utilizes three interrelated analyses to address the adequacy and equity of a utility's rates. These three analyses are a revenue requirement analysis, a cost of service analysis, and a rate design analysis. Table ES-1 provides an overview of these analyses.



# **Summary of the Revenue Requirement Analysis**

The development of the revenue requirements is the first analytical step in the rate study process. The revenue requirement analysis determines the overall adequacy of ASU's rates. The revenue requirements discussed below were developed by AWWU staff and were used in the development of the cost of service analysis.

The initial step in calculating the revenue requirement for ASU was to establish a "test period", or time frame of reference. For this particular study, the revenue requirements reviewed were for

TY 2004, including known and measurable changes. In addition, all costs associated with the military bases were "backed" out of the revenue requirement calculation since the military bases have a contractual agreement which determines the costs associated with their service levels. The costs or expenses that were "backed" out of the analysis were related to O&M, return on rate base, and depreciation expense. In addition, plant assets that were solely dedicated to either of the military bases were also "backed" out of the analysis to ensure the correct allocation of plant assets to ASU retail customers.

The "utility or accrual" basis was used to accumulate costs for this analysis based on the regulation of the utility by the Regulatory Commission of Alaska. The "utility or accrual" basis calculates a utility's annual revenue requirement by aggregating a time period's operation and maintenance (O&M) expenses, taxes, depreciation expense, and a "fair" return on investment. This is the method that has historically been used by ASU to establish its revenue requirement analysis. A summary of the ASU revenue requirement, less military bases, is shown below in Table ES-2.

Table ES-2
Summary of ASU's TY 2004 Revenue Requirements (\$000's)

		Less: Military	
	Total	Related	Total Allocable
O&M Expenses			
Collection System	\$3,266	\$16	\$3,250
Treatment Plant	6,759	416	6,343
Customer Accounts	1,761	3	1,758
Administrative & General	<u>5,734</u>	<u>191</u>	<u>5,543</u>
Total O&M Expenses	\$17,520	\$626	\$16,894
Less:			
Non-Rate Revenue	(\$1,424)	\$0	(\$1,424)
Plus:			
Return on Rate Base	\$5,502	\$206	\$5,296
Depreciation Expense	4,271	248	4,023
Taxes Other Than IncomeMUSA	4,183	<u>66</u>	<u>4,117</u>
Total Additions	\$13,956	<u>\$520</u>	<u>\$13,436</u>
Revenue Required from Rates	\$30,052	\$1,146	\$28,906
Projected 2004 TY Rate Revenues	\$30,052	N/A	\$28,906

In reviewing Table ES-2, it should be noted that the analysis includes the "known and measurable" changes, decreased by the military contributions, and the proposed rate adjustments with the corresponding revenue received during the time period reviewed. The next step is to equitably allocate these expenses to the different customer classes of service.

## **Summary of the Cost of Service Analysis**

A cost of service is used to equitably allocate the revenue requirements to ASU's customers.

There are two primary objectives in conducting a cost of service analysis:

- Allocate the revenue requirements among the customer classes of service, and
- Derive average unit costs for subsequent rate designs.

The objectives of the wastewater cost of service analysis are different from determining revenue requirements. A revenue requirement analysis determines the utility's overall financial needs, while the cost of service analysis determines the "fair and equitable" manner to allocate those revenue requirements. HDR developed a cost of service model for TY 2004 based on recent data provided by ASU on the operation of the system. As with the revenue requirement analysis, the cost of service analysis has "backed" out any assets and operational characteristics related to the military bases. In this way, the cost of service will better reflect the current operating characteristics of ASU's retail customer base. Provided below in Table ES-3 is a summary of the cost of service analysis.

Table ES-3 Summary of the Cost of Service Analysis (\$000's)								
	Total ]	Residential	Multi- Family	Sanitary Landfill	Septic Haulers	Comm. Low	Comm. Medium	Comm. High
Proposed Rate Rev's	\$28,906	\$15,985	\$7,026	\$120	\$337	\$2,674	\$1,962	\$802
Allocated Rev. Req.	28,906	14,937	6,437	110	815	2,889	2,722	996
\$ Difference	\$0	\$1,048	\$589	\$10	(\$478)	(\$215)	(\$760)	(\$194)
% Difference	0.0%	(6.6%)	(8.4%)	(8.6%)	141.7%	8.0%	38.8%	24.2%

In reviewing Table ES-3, the residential class of service includes all single-family, duplex, and triplex accounts, while the multi-family class of service includes all multi-family accounts with more than 3 units and all trailer court units. In summary, the methodology used to allocate costs was consistent with the historical rate practices of ASU.

The cost of service indicated that cost differences do exist between the customer classes of service. However, it should be noted that cost of service results are only one tool used to set cost based and equitable rates. A simple measure of overall equity (cost of service) used by HDR is to consider whether a class of service is within +/- 5% of the overall system adjustment. Typically, customer classes of service within this range are considered to be paying "cost of service." Based on this measure, it would appear that adjustments would be recommended for each of the customer classes of service. It should be noted that these differences are primarily due to a change in how ASU calculated the contributed wastewater flow for each of the customer classes of service. In the past it was estimated that the residential wastewater volume was approximately 94% of their annual water consumption, while under the revised calculation only 83% of residential water consumption is estimated to contribute to wastewater flows. In the previous 1992 TY COSA, the 94% water to wastewater conversion factor was based on the weighted average of the winter water consumption for only metered residential customers, including test metered customers. Since the Utility only had 135 test metered customers in 1992, the majority of the consumption data came from metered multifamily customers that had a much higher winter consumption percentage relative to the total consumption. In this study, the 83% water to wastewater conversion factor is based on the average winter water consumption by customer type for metered residential customers, including the current 877 test meters. This data

was then applied to un-metered residential customers in addition to the metered customers to determine a weighted average winter water consumption for all residential customers, both metered and unmetered. Since the majority of the Utility's customers are flat single family residential customers with a lower winter water consumption percentage relative to total flow, the overall residential average has decreased significantly. This change in the calculation has resulted in a shift of costs between the residential customers and the commercial customers based on the volumes of assumed wastewater contributions. ASU's current proposed rates are based on the overall revenue requirements as determined by this rate case, but are not based on the impacts by customer class of service as developed in the cost of service analysis.

In discussion with ASU staff and management it was determined that cost of service adjustments would be recommended. These adjustments would be based on the costs as developed in the cost of service study and used as a starting point in the rate design process.

## **Summary of the Rate Design Analysis**

The final step of the comprehensive rate study process is the design of rates to collect the overall revenue requirements. The proposed COSA rates are based upon the findings and recommendations from the revenue requirement and cost of service analysis. Since AWWU does not meter all customers for its water utility, wastewater contributions for all customers and therefore rates are based on estimated wastewater volumes. To account for this ASU has two rate schedules, one for customers with metered water and one for customers with un-metered water. The rate schedules are also further defined by residential and commercial customers. The rate structure for the residential un-metered customers is a fixed monthly charge, while the commercial un-metered rate is based on the type of business and assumed strength levels. The metered residential and commercial customer rate is based on a fixed billing/customer charge, and a volume charge based on water consumption. In addition to the customer and volume charge the current rates assume a per unit charge of Inflow and Infiltration (I&I), under the proposed rates this has been included in the volumetric charge which follows typical industry practices.

As discussed previously, the proposed rates are based on the revenue requirements as developed in this rate case while the COSA proposed rates are based on the unit costs as developed in the cost of service analysis. Table ES-4 provides a comparison of the 2006 monthly proposed rates and the monthly rates as developed in the cost of service analysis.

Table ES-4
Comparison of the Residential Proposed and Cost of Service Un-Metered Rates

	2006	COSA	\$	%
Customer Class	Proposed Rates	Proposed	Difference	Difference
Usage Charge - Per U	<u>nit</u>			
Single-family	\$21.30	\$19.54	(\$1.76)	(8.2%)
Duplex	\$21.30	\$19.54	(\$1.76)	(8.2%)
Triplex	\$21.30	\$19.54	(\$1.76)	(8.2%)
Multi-Family	\$21.30	\$19.54	(\$1.76)	(8.2%)
Trailer Courts	\$21.30	\$19.54	(\$1.76)	(8.2%)
Customer Charge - Pe	r Account			
Single-family	\$5.00	\$4.72	(\$0.28)	(5.6%)
Duplex	\$5.00	\$4.72	(\$0.28)	(5.6%)
Triplex	\$5.00	\$4.72	(\$0.28)	(5.6%)
Multi-Family	\$5.00	\$4.72	(\$0.28)	(5.6%)
Trailer Courts	\$5.00	\$4.72	(\$0.28)	(5.6%)

As shown in the above table, the residential cost of service rates are slightly less then the current proposed rates. The difference is based on the cost of service analysis and reflects the recommended decrease in overall residential rates.

Table ES-5 provides the monthly rates for the un-metered commercial class of service. For the un-metered commercial customers the rates are based on the type of business and the charges include an estimated strength factor to accommodate the different strength of flows by business.

Table ES-5
Comparison of the Commercial Proposed and Cost of Service Un-Metered Rates
(Rates include both the customer charge and volume related charge)

	2006 Proposed	COSA	S	%
Customer Class	Rates	Proposed	Difference	Difference
Bakeries/Large	\$401.40	\$551.42	\$150.02	37.4%
Bars/Cocktail Lounges	105.85	77.14	(28.71)	(27.1%)
Restaurant/Cafe	204.85	209.84	4.99	2.4%
Bar + Restaurant	350.60	327.35	23.25	6.6%
Camper Park	19.10	9.66	(9.44)	(49.4%)
Church	43.80	45.07	1.27	2.9%
Dentist/Medical/Chiro Office/Clinic	113.50	116.08	2.58	2.3%
Vet/Pet Shop/Kennel/Stable/Groom	52.40	50.63	(1.77)	(3.4%)
Service Station Self Server	41.05	25.99	(15.06)	(36.7%)
Service Station Full Server	51.80	56.98	5.18	10.0%
Motel (Includes Boarding House)	26.65	36.42	9.77	36.7%
Laundromats	1059.10	547.27	(511.83)	(48.3%)
Office/Retail/Services	28.25	32.55	4.30	15.2%
Retail/Office/Priv	197.70	297.31	99.61	50.4%
Retail/Office 6-25	57.35	86.11	28.76	50.1%
Train School	68.60	98.00	29.40	42.9%
Barber/Beauty Shops	36.80	23.48	(13.32)	(36.2%)
Theater	153.05	215.02	61.97	40.5%
Bath House/Recreational Facility	53.15	63.98	10.83	20.4%
Warehouse/Hanger & Misc Shops	30.90	27.23	(3.67)	(11.9%)
Library/Auction/Bingo Hall/Museum	88.85	167.27	78.42	88.3%
Convenience Stores 7-11, Etc	57.65	44.69	(12.96)	(22.5%)
Convenience Stores W/Gas Pump	55.80	173.31	117.51	210.6%
Dr-In/Fast Food/Deli/Donut Shop	165.75	167.48	1.73	1.0%
Massage Parlor/Escort Service	108.70	112.38	3.68	3.4%
Auto Sales And Service	202.65	43.24	(159.41)	(78.7%)
Garage/Body Shop/Mech Shop	30.50	54.77	24.27	79.6%
Const/Vacant Building Water On	30.20	85.16	54.96	182.0%
Fire Stations	65.90	58.20	(7.70)	(11.7%)

As shown in Table ES-5 the un-metered commercial rates have some differences between the cost of service rates and the proposed rates for some of the charges. This is due to the change in the consumption patterns by business type in this COSA vs. the previous COSA which is what the current proposed rates are based on. The adjustment for the commercial class of service as a whole is based on the recommended cost of service adjustments by strength class.

The next rates developed were for the metered customers. Table ES-6 provides a summary of the monthly proposed rates and cost of service monthly metered rates based on actual metered water consumption.

Table ES-6	
Summary of the Metered Proposed and Cost of Service Rate	s

	2006	COSA	S	% Difference	
Customer Class	Proposed Rates	Proposed	Difference		
Residential – Metered					
Single-family	N/A	N/A	N/A	N/A	
Duplex, Triplex, Multifamily, Trailer C	Courts				
Volume Charge – Per 1,000Gal	\$2.49	\$3.06	\$0.57	22.9%	
Customer Charge – Per Account	\$5.00	\$4.72	(\$0.28)	(5.6%)	
I&I Charge	\$3.50	N/A	N/A	N/A	
Commercial					
Low Strength					
Volume Charge – Per 1,000Gal	\$2.38	\$2.69	\$0.31	13.0%	
Customer Charge – Per Account	\$5.00	\$4.72	(\$0.28)	(5.6%)	
I&I Charge	\$3.50	N/A	N/A	N/A	
Medium Strength					
Volume Charge – Per 1,000Gal	\$2.71	\$3.57	\$0.83	30.6%	
Customer Charge – Per Account	\$5.00	\$4.72	(\$0.28)	(5.6%)	
I&I Charge	\$3.50	N/A	N/A	N/A	
High Strength					
Volume Charge – Per 1,000Gal	\$3.32	\$4.19	\$00.87	26.2%	
Customer Charge – Per Account	\$5.00	\$4.72	(\$0.28)	(5.6%)	
I&I Charge	\$3.50	N/A	N/A	N/A	
Others					
Sanitary Landfill					
Volume Charge - Per 1,000Gal	\$1.11	\$1.00	(\$0.11)	(9.9%)	
Customer Charge - Per Account	\$5.00	\$4.72	(\$0.28)	(5.6%)	
I&I Charge	\$1.45	N/A	N/A	N/A	
Septic Haulers					
Volume Charge – / 1,000Gal Cap.	\$272.63	\$647.54	\$374.91	137.5%	
Customer Charge – Per Account	\$5.00	\$4.72	(\$0.28)	(5.6%)	
I&I Charge	\$1.45	N/A	N/A	N/A	

Similar to the commercial un-metered rates, there are differences between the proposed rates and cost of service rates. This is due to changes in the consumption by class of service as well as a shifting of costs toward the volume charge from the fixed charge. The proposed rates reflect the recommended results from the cost of service analysis and are cost based and defensible.

## **Summary**

The above discussion provides a brief summary of the overall approach, along with the findings and conclusions of the cost of service analysis performed for ASU. The following sections of the report provide an in-depth review of the calculations and recommendations of the cost of service analysis.

#### **Content Information**

**Content ID**: 004000

Type: Ordinance - AO

AN ORDINANCE OF THE MUNICIPALITY OF ANCHORAGE, ALASKA,

APPROVING SUBMISSION BY THE ANCHORAGE WATER &

Title: WASTEWATER UTILITY ON BEHALF OF THE ANCHORAGE

WASTEWATER UTILITY (ASU) OF PROPOSED RATE CHANGES TO

THE REGULATORY COMMISSION OF ALASKA.

**Author:** gibsonam **Initiating Dept:** AWWU

**Date Prepared:** 5/11/06 5:05 PM **Director Name:** Mark Premo

**Assembly** 

Meeting Date 5/23/06

MM/DD/YY: Public Hearing

**Date** 6/6/06

MM/DD/YY:

#### **Workflow History**

	110111	1044 1 11916	· • y		
Workflow Name	Action Date	Action	<u>User</u>	Security Group	Content ID
AllOrdinanceWorkflow	5/11/06 5:06 PM	Checkin	gibsonam	Public	004000
AWWU_SubWorkflow	5/11/06 5:09 P <b>M</b>	Approve	premomc	Public	004000
OMB_SubWorkflow	5/12/06 9:00 AM	Approve	mitsonjl	Public	004000
AllOrdinanceWorkflow	5/15/06 12:24 PM	Reject	fehlenri	Public	004000
AllOrdinanceWorkflow	5/15/06 2:27 PM	Checkin	gibsonam	Public	004000
AllOrdinanceWorkflow	5/15/06 2:29 PM	Reject	premomc	Public	004000
AllOrdinanceWorkflow	5/15/06 2:37 PM	Checkin	gibsonam	Public	004000
AWWU_SubWorkflow	5/15/06 2:38 PM	Approve	premomc	Public	004000
OMB_SubWorkflow	5/17/06 10:20 AM	Approve	mitsonjl	Public	004000
Legal_SubWorkflow	5/17/06 1:25 PM	Approve	fehlenri	Public	004000
MuniManager_SubWorkflow	5/19/06 8:25 AM	Approve	leblancdc	Public	004000
MuniMgrCoord_SubWorkflow	5/19/06 11:44 AM	Approve	curtiscr	Public	004000