

PURCHASING & LICENSING COMMITTEE

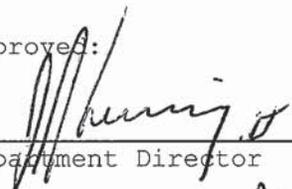
11-0615R

RESOLUTION AWARDING A CONTRACT TO SAIC ENERGY, ENVIRONMENT & INFRASTRUCTURE, LLC, FOR PROFESSIONAL SERVICES IN CONDUCTING A COST OF SERVICE STUDY AND RATE DESIGN FOR THE CITY'S GAS UTILITY NOT TO EXCEED \$44,800.

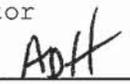
CITY PROPOSAL:

RESOLVED, that the proper city officials are hereby authorized to enter into a consultant agreement with SAIC Energy, Environment & Infrastructure, LLC, substantially the same as that on file with the city clerk as Public Document No. _____, for professional services in conducting a cost of service study and rate design for the city's public works and utilities department in accordance with the consultant's statement of qualifications and proposal both dated October 31, 2011, for a total amount not to exceed \$44,800, payable from Gas Fund 520, Dept./Agency 500 (Public Works & Utilities), Org. 1915 (Utility General Expense), Object 5319 (Other Professional Services).

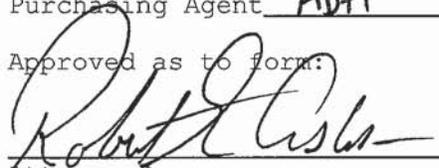
Approved:



Department Director

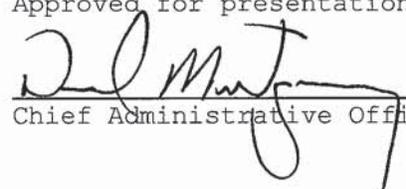
Purchasing Agent 

Approved as to form:



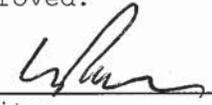
Attorney

Approved for presentation to council:



Chief Administrative Officer

Approved:



Auditor

PWU/PRCH ES:AH:le 11/16/2011

STATEMENT OF PURPOSE: This resolution authorizes an agreement with SAIC Energy, Environment & Infrastructure, LLC, for professional services in conducting a cost of service study and rate design for an amount not to exceed \$44,800 payable from the gas fund.

The purchasing division posted the original request for qualifications and proposals on the city's website October 7, 2011, and received four packages by the October 31, 2011, closing date.

An internal committee of city experts reviewed and evaluated each proposal based on a point system. They unanimously determined that SAIC Energy, Environment & Infrastructure, LLC, was the best qualified and suited to perform the city of Duluth natural gas cost of service and rate study. SAIC's estimated hours to complete the job was reasonable and its experience included many cost of service studies and rate designs for Minnesota utilities.

Natural Gas Cost of Service & Rate Study File No. 11-0528 Closing Date October 31, 2011			
Consultant	City	State	Evaluation Score
SAIC Energy, Environment & Infrastructure, LLC	St. Paul	Minnesota	346
Avant Energy, Inc.	Minneapolis	Minnesota	314
AUS Consultants, Inc.	Camp Hill	Pennsylvania	283
GDS Associates, Inc.	Austin	Texas	283

Requisition 11-0528

AGREEMENT FOR PROFESSIONAL SERVICES

BY AND BETWEEN

SAIC ENERGY, ENVIRONMENT & INFRASTRUCTURE, LLC

AND

CITY OF DULUTH

THIS AGREEMENT, by and between the CITY OF DULUTH, a municipal corporation, hereinafter referred to as City, and SAIC ENERGY, ENVIRONMENT & INFRASTRUCTURE, LLC located at 1380 Corporate Center Curve, Suite 305, St. Paul, MN, 55121 a limited liability company under the laws of Delaware, hereinafter referred to as Consultant, for the purpose of rendering services to the City.

WHEREAS, City issued a Request for Qualifications (the "RFQ") to perform a natural gas utility system cost of service and rate study for the City's Public Works and Utilities Department's gas utility (the "Cost of Services Rate Study" or "Project");

WHEREAS, Consultant has represented itself as an expert in municipal utilities rate analysis, that it is qualified and willing to perform the services set for in the RFQ and has submitted a Statement of Qualifications ("Qualifications") in response to the RFQ;

WHEREAS, Consultant submitted a Proposal in response to the RFQ (the "Proposal");

WHEREAS, based on the Qualifications and Proposal the City has selected Consultant's professional services for the Project;

NOW, THEREFORE, in consideration of the mutual covenants and conditions hereinafter contained, the parties hereto agree as follows:

I. Services to be Performed.

Consultant will provide the following services described in more detail in Consultant's Proposal dated October 31, 2011 attached hereto as Exhibit A, and its Qualifications dated October 31, 2011 attached hereto as Exhibit B; both incorporated herein by reference (the "Services"):

- A. This analysis is to include a review of all existing rates.
- B. A review and analysis of the gas utility's Purchased Gas Adjustment (PGA) and methods of calculation including but not limited to the establishment of commodity rates that better reflect current and expected costs of gas and the structuring of the commodity rate and PGA to more closely recover purchased gas costs and reduce cash flow volatility should be addressed.
- C. A review and analysis of the gas utility's recovery of payment in lieu of tax (PILOT) to determine if the current revenue collection process is adequately recovering the fee being paid by the utility to the City. Currently the gas utility pays the City of Duluth seven percent (7%) of its gross revenue in lieu of tax which is built into the base rate and is modified with the PGA every month.
- D. An analysis of the value of gas services to customers that use natural gas as a back-up fuel to be used during peak periods when other base load primary fuels or energy sources are curtailed by those suppliers. (MN Power's dual fuel rate and Steam Co-op customers.)
- E. An analysis of the value of gas services to customers using gas to supplement air-source and ground source heat pump heating systems.
- F. In addition, the study should:
- Analyze current costs including labor, maintenance, general fund fees, operating margin, capital, and bond payments;
 - Allocate costs to customer classes;
 - Recommend rate structures to generate revenue to fully recover costs in a timely way;
 - Evaluate and recommend rate designs that facilitate customer retention in the face of competition from alternatives available to large customers.
 - Evaluate approaches to encourage cost-effective system growth; and
 - Address how to generate revenue for increasing State of Minnesota requirements for energy conservation programs;
 - Evaluate and recommend rate designs to generate revenue from transport customers to fully recover costs in a timely manner when customers unexpectedly switch from full service customers to natural gas transport customers.
 - Recommend rate designs so transport rates are revenue neutral compared to full service rates;

- insure costs for pre-purchased gas in storage and pipeline capacity charges for full service customers switching to transport service are covered by first year transport rates.
 - project what rates would look like for each rate class if there was no fixed monthly charge component. Discuss how this could affect revenue stability.
- G. Presentation of Study Results
- Prepare and deliver a presentation of study results and rate recommendations to the Duluth Public Works and Utilities Department. (via a conference call.)
 - Deliver to City a report on the cost of service study and rate design recommendations in both electronic and hard copy form.
 - Prepare and deliver a presentation of study results and rate recommendations to the Duluth Public Utilities Commission.
 - Respond to questions from the Duluth Public Utilities Commission.
 - Make presentation to major customers identified by City.

In the event of any conflict between the Proposal, Qualifications and this Agreement, the terms and conditions of this Agreement shall be deemed to be controlling.

II. Fees.

It is agreed between the parties that Consultant's maximum fee for the term of this Agreement shall not exceed the sum of Forty-four Thousand eight hundred dollars and 00/100th dollars (\$44,800.00) inclusive of all travel and other expenses associated with the Project, payable from Fund 520-500-1915-5319 (Gas, Public Works & Utilities, Utility General Expense, Other Professional Services). All invoices for services rendered shall be submitted to the attention of Eric Schlacks and will be paid based on the following schedule:

Charges and fees shall be billed as set forth in the Consultant's proposal attached hereto in Exhibit "A".

Payments shall be made after completion of individual tasks identified in the "Project Understanding and Work Plan" presented in Consultant's Proposal. Consultant shall submit monthly invoices to City for a not-to exceed maximum compensation of \$44,800 for labor and expenses to complete the project. Monthly invoices shall charge for the actual hours of services furnished by Consultant for each completed task multiplied by Consultant's Project Team Member's hourly labor rates for Project Team Members as

specified in its Proposal. For example: Invoicing for the month of December will include 3 hours for the completion of Task 1 (Data Request) and 9 hours for the completion of Task 2 (Project Kick-off Meeting...) but would not include any hours billed for Task 3 if Task 3 was not completed in its entirety in the month of December. Billing for Task 3 will be carried over/held into the next month(s) until the task is completed. Labor hours billed on invoices for individual tasks 1 through 18 shall not exceed hours estimated in Work Plan unless City has approved additional hours for the Project task.

III. General Terms and Conditions.

1. Amendments. Any alterations, variations, modifications or waivers of terms of this Agreement shall be binding upon the City and Consultant only upon being reduced to writing and signed by a duly authorized representative of each party.
2. Assignment. Consultant represents that it will utilize only its own personnel in the performance of the services set forth herein; and further agrees that it will neither assign, transfer or subcontract any rights or obligations under this Agreement without prior written consent of the City. The primary consultants assigned to this project will be Dave Berg and Theresa Kervin (collectively the "Primary Consultants"). Each shall be responsible for the delivery of professional services required by this Agreement and, except as expressly agreed in writing by the City in its sole discretion, the City is not obligated to accept the services of any other employee or agent of Consultant in substitution of the Primary Consultants. The foregoing sentence shall not preclude other employees of Consultant from providing support to the Primary Consultants in connection with Primary Consultant's obligations hereunder.
3. Data and Confidentiality, Records and Inspection.
 - a. The City agrees that it will make available all pertinent information, data and records under its control for Consultant to use in the performance of this Agreement, or to assist Consultant wherever possible to obtain such records, data and information.
 - b. All reports, data, information, documentation and material given to or prepared by Consultant pursuant to this Agreement will be confidential and will not be released by Consultant without prior authorization from the City.
 - c. Consultant agrees that all work created by Consultant for the City is a "work made for hire" and that the City shall own all right, title, and

interest in and to the work, including the entire copyright in the work. Consultant further agrees that to the extent the work is not a “work made for hire” Consultant will assign to City ownership of all right, title and interest in and to the work, including ownership of the entire copyright in the work. Consultant agrees to execute, at no cost to City, all documents necessary for City to perfect its ownership of the entire copyright in the work. Consultant represents and warrants that the work created or prepared by Consultant will be original and will not infringe upon the rights of any third party, and Consultant further represents that the work will not have been previously assigned, licensed or otherwise encumbered. Notwithstanding the foregoing, Consultant may use the works (hereinafter defined as “Deliverables”) solely for marketing or promotional purposes and not for commercial purposes. In addition, the City agrees that it will use reasonable efforts to refer to and credit SAIC Energy, Environment & Infrastructure, LLC as the author of the Deliverables in connection with any re-prints or re-uses by the City.

- d. Records shall be maintained by Consultant in accordance with requirements prescribed by the City and with respect to all matters covered by this Agreement. Such records shall be maintained for a period of six (6) years after receipt of final payment under this Agreement.
- e. Consultant will ensure that all costs shall be supported by properly executed payrolls, time records, invoices, contracts, vouchers, or other official documentation evidencing in proper detail the nature and propriety of the charges. All checks, payrolls, invoices, contracts, vouchers, orders, or other accounting documents pertaining in whole or in part to this Agreement shall be clearly identified and readily accessible.
- f. Consultant shall be responsible for furnishing to the City records, data and information as the City may require pertaining to matters covered by this Agreement.
- g. Consultant shall ensure that at any time during normal business hours and as often as the City may deem necessary, there shall be made available to the City for examination, all of its records with respect to all matters covered by this Agreement Consultant will also permit the City to audit, examine, and make excerpts or transcripts from such records, and to make audits of all contracts, invoices, materials, payrolls, records of personnel,

conditions of employment, and other data relating to all matters covered by this Agreement.

4. Consultant Representation and Warranties.

Consultant represents and warrants that:

a. Consultant and all personnel to be provided by it hereunder have sufficient training and experience to perform the duties set forth herein including but not limited to the desired qualifications outlined in the RFQ and are in good standing with all applicable licensing requirements.

b. Consultant and all personnel provided by it hereunder shall perform their respective duties in a professional and diligent manner in the best interests of the City and in accordance with the then current generally accepted standards of the profession for the provisions of services of this type.

c. Consultant has complied or will comply with all legal requirements applicable to it with respect to this Agreement. Consultant will observe all applicable laws, regulations, ordinances and orders of the United States, State of Minnesota and agencies and political subdivisions thereof.

d. The execution and delivery of this Agreement and the consummation of the transactions herein contemplated do not and will not conflict with, or constitute a breach of or a default under, any agreement to which the Consultant is a party or by which it is bound, or result in the creation or imposition of any lien, charge or encumbrance of any nature upon any of the property or assets of the Consultant contrary to the terms of any instrument or agreement.

e. There is no litigation pending or to the best of the Consultant's knowledge threatened against the Consultant affecting its ability to carry out the terms of this Agreement or to carry out the terms and conditions of any other matter materially affecting the ability of the Consultant to perform its obligations hereunder.

f. The Consultant will not, without the prior written consent of the City, enter into any agreement or other commitment the performance of which would constitute a breach of any of the terms, conditions, provisions, representations, warranties and/or covenants contained in this Agreement.

5. Agreement Period.

The term of this Agreement shall commence on the later of the date of the last required signature below (the "Effective Date") and performance shall be completed by February 29, 2012, unless terminated earlier as provided for herein. Notwithstanding the foregoing, the term of this Agreement may be extended for a

period of up to six (6) months upon prior written approval of the Director of Public Works & Utilities Division.

The City may, by giving thirty (30) days written notice, specifying the effective date thereof, terminate this Agreement in whole or in part without cause. In the event of termination, all property and finished or unfinished documents and other writings prepared by Consultant under this Agreement shall become the property of the City and Consultant shall promptly deliver the same to the City. Consultant shall be entitled to compensation for services properly performed by it to the date of termination of this Agreement. In the event of termination due to breach by Consultant, the City shall retain all other remedies available to it, and the City shall be relieved from payment of any fees in respect of the services of Consultant which gave rise to such breach.

6. Independent Contractor.

a. It is agreed that nothing herein contained is intended or should be construed in any manner as creating or establishing the relationship of copartners between the parties hereto or as constituting Consultant as an agent, representative or employee of the City for any purpose or in any manner whatsoever. The parties do not intend to create any third party beneficiary of this Agreement. Consultant and its employees shall not be considered employees of the City, and any and all claims that may or might arise under the Worker's Compensation Act of the State of Minnesota on behalf of Consultant's employees while so engaged, and any and all claims whatsoever on behalf of Consultant's employees arising out of employment shall in no way be the responsibility of City. Except for compensation provided in Section II of this Agreement, Consultant's employees shall not be entitled to any compensation or rights or benefits of any kind whatsoever from City, including without limitation, tenure rights, medical and hospital care, sick and vacation leave, Worker's Compensation, Unemployment Insurance, disability or severance pay and P.E.R.A. Further, City shall in no way be responsible to defend, indemnify or save harmless Consultant from liability or judgments arising out of Consultant's intentional or negligent acts or omissions of Consultant or its employees while performing the work specified by this Agreement.

b. The parties do not intend by this Agreement to create a joint venture or

joint enterprise, and expressly waive any right to claim such status in any dispute arising out of this Agreement.

c. Contractor expressly waives any right to claim any immunity provided for in Minnesota Statutes Chapter 466 or pursuant to the official immunity doctrine.

7. Indemnity.

Consultant shall defend, indemnify and hold City and its employees, officers, and agents harmless from and against any and all cost or expenses, claims or liabilities, including but not limited to, reasonable attorneys' fees and expenses to the extent caused by the Consultant's a) breach of this agreement or b) its negligence or misconduct or that of its agents or contractors in performing the Services hereunder or c) any claims arising in connection with Consultant's employees or contractors, or d) the use of any materials supplied by the Consultant to the City unless such material was modified by City or third party and such modification is the cause of such claim. This Section shall survive the termination of this Agreement for any reason.

Except for an employee's willful misconduct, no employee of Consultant shall have individual liability to City. To the extent permitted by law, the total aggregate liability of Consultant, its officers, directors, shareholders, employees and subconsultants for any and all claims arising out of this Agreement, including attorneys' fees, and whether caused by negligence, errors, omissions, strict liability, breach of contract or contribution, or indemnity claims based on third party claims, shall not exceed the revenue received by Consultant under this Agreement or one hundred fifty thousand dollars (U.S. \$150,000.00), whichever is greater.

8. Insurance.

a. Consultant shall provide the following minimum amounts of insurance from insurance companies authorized to do business in the state of Minnesota.

- (1) Workers' compensation insurance in accordance with the laws of the State of Minnesota.
- (2) Public Liability and Automobile Liability Insurance with limits not less than **\$1,500,000** Single Limit, and twice the limits provided when a claim arises out of the release or threatened release of a

hazardous substance; shall be in a company approved by the city of Duluth; and shall provide for the following: Liability for Premises, Operations, Completed Operations, Independent Contractors, and Contractual Liability.

- (3) Professional Liability Insurance in an amount not less than **\$1,500,000** Single Limit; provided further that in the event the professional malpractice insurance is in the form of claims made, insurance, 60 days notice prior to any cancellation or modification shall be required; and in such event, Consultant agrees to provide the City with either evidence of new insurance coverage conforming to the provisions of this paragraph which will provide unbroken protection to the City, or, in the alternative, to purchase at its cost, extended coverage under the old policy for the period the state of repose runs; the protection to be provided by said claims made insurance shall remain in place until the running of the statute of repose for claims related to this Agreement.
- (4) **City of Duluth shall be named as Additional Insured** by a blanket endorsement under the Public Liability and Automobile Liability, or as an alternate, Consultant may provide Owners-Contractors Protective policy, naming himself and City of Duluth. Consultant shall also provide evidence of Statutory Minnesota Workers' Compensation Insurance. Consultant to provide Memorandum of Insurance evidencing such coverage with 90-days notice of cancellation, non-renewal or material change provisions included. The City of Duluth does not represent or guarantee that these types or limits of coverage are adequate to protect the Consultant's interests and liabilities.
- (5) If a memorandum of insurance is provided, the form of the certificate shall contain an unconditional requirement that the insurer notify the City without fail not less than 90 days prior to any cancellation, non-renewal or modification of the policy or coverages evidenced by said certificate and shall further provide that failure to give such notice to City will render any such change or changes in said policy or coverages ineffective as against the City.

(6) **The use of an Accord" form as a certificate of insurance shall be accompanied by two forms – 1) ISO Additional Insured Endorsement (CG-2010 pre-2004) and 2) Notice of Cancellation Endorsement (IL 7002) or equivalent, as approved by the Duluth City Attorney's Office.**

- b. The insurance required herein shall be maintained in full force and effect during the life of this Agreement and shall protect Consultant, its employees, agents and representatives from claims and damages including but not limited to personal injury and death and any act or failure to act by Consultant, its employees, agents and representatives in the negligent performance of work covered by this Agreement.
- c. A memorandum showing that Consultant is carrying the above described insurance in the specified amounts shall be furnished to the City prior to the execution of this Agreement and a certificate showing continued maintenance of such insurance shall be on file with the City during the term of this Agreement.
- d. The City shall be named as an additional insured on each liability policy by a blanket endorsement other than the professional liability and the workers' compensation policies of the Consultant.
- e. The memorandum shall provide that the policies shall not be changed or canceled during the life of this Agreement without at least 90 days advanced notice being given to the City.

9. Notices

Unless otherwise expressly provided herein, any notice or other communication required or given shall be in writing and shall be effective for any purpose if served, with delivery or postage costs prepaid, by nationally recognized commercial overnight delivery service or by registered or certified mail, return receipt requested, to the following addresses:

City:

City of Duluth
520 Garfield Ave
Duluth, MN 55802
Attn: Eric Schlacks

Consultant

SAIC Energy, Environment &

Infrastructure, LLC.
1380 Corporate Center Curve
Suite 305
St. Paul, MN 55121
Attn: David A. Berg, P.E.

10. Civil Rights Assurances

Consultant, as part of the consideration under this Agreement, does hereby covenant and agree that:

- a. No person on the grounds of race, color, creed, religion, national origin, ancestry, age, sex, marital status, status with respect to public assistance, sexual orientation, and/or disability shall be excluded from any participation in, denied any benefits of, or otherwise subjected to discrimination with regard to the work to be done pursuant to this Agreement.
- b. That all activities to be conducted pursuant to this Agreement shall be conducted in accordance with the Minnesota Human Rights Act of 1974, as amended (Chapter 363), Title 7 of the U.S. Code, and any regulations and executive orders which may be affected with regard thereto.

11. Laws, Rules and Regulations.

Consultant agrees to observe and comply with all laws, ordinances, rules and regulations of the United States of America, the State of Minnesota and the City with respect to their respective agencies which are applicable to its activities under this Agreement.

12. Applicable Law.

This Agreement, together with all of its paragraphs, terms and provisions is made in the state of Minnesota and shall be construed and interpreted in accordance with the laws of the State of Minnesota.

13. Force Majeure.

Neither party shall be liable for any failure of or delay in performance of its obligations under his Agreement to the extent such failure or delay is due to circumstances beyond its reasonable control, including, without limitation, acts of

God, acts of a public enemy, fires, floods, wars, civil disturbances, sabotage, accidents, insurrections, blockades, embargoes, storms, explosions, labor disputes, acts of any governmental body (whether civil or military, foreign or domestic), failure or delay of third parties or governmental bodies from whom a party is obtaining or must obtain approvals, franchises or permits, or inability to obtain labor, materials, equipment, or transportation. Any such delays shall not be a breach of or failure to perform this Agreement or any part thereof and the date on which the party's obligations hereunder are due to be fulfilled shall be extended for a period equal to the time lost as a result of such delays.

14. Severability

In the event any provision herein shall be deemed invalid or unenforceable, the remaining provision shall continue in full force and effect and shall be binding upon the parties to this Agreement.

15. Entire Agreement

It is understood and agreed that the entire agreement of the parties including all exhibits is contained herein and that this Agreement supersedes all oral agreements and negotiations between the parties relating to the subject matter hereof. Any amendment to this Agreement shall be in writing and shall be executed by the same parties who executed the original agreement or their successors in office.

16. Counterparts

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same instrument.

SIGNATURES APPEAR ON THE FOLLOWING PAGE

IN WITNESS WHEREOF, the parties have hereunto set their hands the day and date first above shown.

CITY OF DULUTH, a Minnesota municipal corporation

SAIC ENERGY, ENVIRONMENT & INFRASTRUCTURE, LLC

By: _____
Its Mayor

By _____

Attest:

Its _____
Title of Representative

By: _____
City Clerk
Date:

Date:

Countersigned:

City Auditor

Approved as to form:

City Attorney

Approved:

Director, Public Works and Utilities Department

Approved:

City Purchasing Agent

EXHIBIT A

PROPOSAL

CITY OF DULUTH, MINNESOTA
PUBLIC WORKS AND UTILITIES DEPARTMENT
RFQ No. 11-0528

Natural Gas Cost of Service and Rate Study

PROPOSAL | OCTOBER 2011

The SAIC logo is located in the bottom right corner of the page. It consists of the letters "SAIC" in a bold, italicized, sans-serif font, followed by a registered trademark symbol (®). The background of the entire page is a high-contrast, black and white photograph of a person's hands holding a pen over a document that features a line graph and a bar chart. The lighting is dramatic, with strong highlights and deep shadows, creating a professional and focused atmosphere.



October 31, 2011

City of Duluth
Purchasing Department, Room 100
411 West 1st Street
Duluth, MN 55802

Attention: Dennis Sears

Subject: **Proposal for City of Duluth Natural Gas Cost of Service and Rate Study
RFQ No. 11-0528**

Dear Mr. Sears:

The City of Duluth is requesting a full cost of service and rate design study for its natural gas utility. In the proposed work plan we have provided, we address all aspects of this study, including a five-year forecast of operating results with cash reserves, an unbundled cost of service analysis, and rate design for all rate classes.

We note the specific issues of concern mentioned in your request for qualifications and project proposal. We agree that all of these issues are critical to the successful operation of your utility. As described in our work plan, we will review and provide recommendations, as needed, on the purchased gas adjustment (PGA) rate methodology, including the cost component for "payment in lieu of taxes" (PILOT). Additional issues that we will be mindful of in this study are rates for customers using natural gas as a back-up fuel, customer retention, system growth, revenues to support energy conservation programs, rates for transportation customers, and the effect of using only variable-based rates to collect revenues.

We are confident that we are uniquely qualified to assist Duluth with this study and look forward to working with Duluth on this important project. If you have questions concerning this proposal or would like additional information, please contact me at (651) 289-2513 or david.a.berg@saic.com.

Sincerely,

SAIC Energy, Environment & Infrastructure, LLC

David A. Berg, P.E.
Senior Project Manager

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SECTION 1

Project Understanding and Work Plan

Project Understanding and Work Plan

Project Understanding

The City of Duluth, Public Works and Utilities Department (Duluth), requests consulting services for the development of a cost-of-service analysis and rate design study for Duluth's gas utility.

Duluth's gas utility purchases natural gas supplies from several suppliers through several different pipelines. Duluth's gas utility then distributes the gas to full service and interruptible customers. In addition, Duluth provides gas transportation services to its transportation-only customers. The gas utility must operate in a complex environment that requires a unique understanding and approach to rates to ensure the continued financial health of the utility. Through this study, Duluth is seeking to update its retail gas rates, review pricing for back-up gas services and revise its Purchased Gas Adjustment (PGA) and Payment in Lieu of Taxes (PILOT) calculation methodologies, as needed. Duluth is also looking for recommendations related to customer retention, system growth, and energy conservation.

Benefit to Duluth:

The SAIC team's long-time experience in the regulatory arena will assure Duluth that our work products and our recommendations can withstand the scrutiny of the regulatory process.

Detailed Work Plan

SAIC, upon authorization from Duluth, will perform a natural gas cost of service and unbundled rate study for Duluth's natural gas utility. The services provided in connection with this assignment will include an analysis of the historical operating results, development of future revenues and revenue requirements, an evaluation of the unbundled cost of serving each customer classification, and the design of proposed new gas rates. Throughout the study, we will keep in close contact with Duluth and review all work and assumptions continually throughout each step of the process and each phase of this study. The proposed Study Period for this project is 2011-2016.

Task 1: Data Request

SAIC will provide a list of data necessary to develop a projection of revenue requirements and to perform the analysis to determine allocation factors, cost of service, and rate design. This list will allow Duluth utility staff to begin locating and compiling the necessary data for the study to progress. Upon receipt of this data, SAIC will organize the material and create a computer model that will be used in the various types of analyses needed in this study.

Revenue Requirements: Development of the revenue requirements will include review of annual historical and budgeted operating expenses, the cost of additions to the system anticipated by Duluth, and any other financial obligations of the gas utility, such as debt service and PILOT to the City of Duluth. The data, to be provided by Duluth and reviewed by the Project Team, shall cover the last five (5) years (the most recent year is considered the “Test Year”).

Allocation Data: The data required to complete the study includes monthly billing and accounting data related to Duluth’s retail natural gas operations: peak and contract demand (CCF); monthly commodity volumes by rate schedule (CCF); and number, size, and type of customers for each retail rate class.

Hours: 3

City Involvement: Organize and submit all requested data.

Task 2: Project Kick-Off Meeting and Data Review

SAIC will spend one (1) day in Duluth’s utility office to participate in a project kick-off meeting. During this meeting, SAIC will:

- Receive an update on the gas utility’s operations and its issues of concern, including customer retention and system growth
- Discuss the gas utility’s financial and service goals and their relationship to the gas utility’s rates
- Review the gas utility’s natural gas retail rates and issues related to its gas backup, heat pump and transportation rates, as well as its PGA rate and PILOT
- Discuss the data compiled for this study, the study schedule and the responsibilities of Duluth and the SAIC project team in completing the study

Hours: 9

City Involvement: Participate in meeting.

Task 3: Project Future Gas Sales and Requirements

SAIC will work with Duluth’s gas utility staff to perform analysis of historical customer sales and historical wholesale gas supplies, in order to forecast gas requirements that account for customer growth and system losses. Our estimates will take into account any recent or anticipated changes in customer service characteristics identified. Estimated gas sales during the Study Period will be developed for each customer classification. Forecasted gas commodity and transportation expenses will be based on Duluth’s commodity and gas pipeline contracts and market price forecasts for gas, as appropriate to the utility’s buying strategy.

Hours: 36

City Involvement: Provide additional data and answer questions, as needed.

Task 4: Estimate Revenue Requirements

SAIC will evaluate the gas utility's historical operating costs and revenues, as well as current budgets, and will prepare an estimate of the annual functionalized revenue requirements for each year of the Study Period. Estimated revenue requirements will include gas supply and transportation expenses, distribution expenses, customer accounting, administrative and general expenses, investment income (as a credit), an allowance for capital improvements and additions and other pertinent expenses. Estimated gas supply and transportation expenses will be based on the future gas requirements projected as part of Task 3 and on any expected changes in wholesale gas supply costs. Our forecasts will be discussed with the gas utility staff.

Hours: 38

City Involvement: Provide additional data and answer questions, as needed.

Task 5: Estimate Revenues

Based on the gas utility's existing retail rates and estimated sales developed in Task 3, SAIC will estimate the annual revenues at existing rates, by customer classification, for each year of the Study Period, as well as other operating and non-operating revenues. Our forecast will also reflect revenues anticipated under the gas utility's PGA Clause.

Hours: 33

City Involvement: Provide additional data and answer questions, as needed.

Task 6: Estimate Operating Costs, Revenues and Cash Reserves

Based on estimated revenues and revenue requirements developed above, SAIC will prepare a summary of annual operating results and cash reserves for each year of the Study Period. This summary will include a determination of the revenue adjustments, if any, required during the Study Period in order to meet annual revenue requirements or to provide a rate of return sufficient to support a greater degree of financial stability. This task will also project cash reserves at existing rates for each year of the Study Period for comparison with the utility's cash reserves goals.

Hours: 16

City Involvement: None.

Task 7: Operating Results Status Conference Call Meeting

SAIC will hold a conference call with representatives of the gas utility to review the results of the analysis to date, including a thorough review of the estimated gas supply expense, other operating and non-operating revenues and expenses, sales and revenue forecast and overall status of the pro forma operating results at existing rates. Initial discussions will begin regarding needed changes in overall revenues.

Hours: 4

City Involvement: Participation in conference call meeting.

Task 8: Classify Costs

Using embedded costs, SAIC will analyze the base year functionalized revenue requirements, plant-in-service, and capital expenses. Each individual expense item will be evaluated to determine what, if any, adjustments may be required to create a Test Year that will reflect the costs of providing service to the utility's customers for a typical year going forward. Finally, the Test Year revenue requirements will be classified to capacity, commodity or customer cost components, depending on the cost causation. In general, capacity and customer-related costs are fixed costs; commodity costs are variable costs. Each individual expense item will be examined individually to assign the most appropriate classification.

Hours: 10

City Involvement: None.

Task 9: Develop Allocation Factors

SAIC will analyze the service characteristics of the gas utility's customers and develop appropriate factors for allocating Test Year revenue requirements to individual customer classes. As the selection of allocators for allocating costs to customer classes is such a significant determinant of the rates paid by customer classes, SAIC develops these allocators with care, following approved industry methodologies.

Hours: 10

City Involvement: None.

Task 10: Allocate Costs

Based on classified revenue requirements and class allocation factors, SAIC will calculate the allocated cost of serving each customer classification. The cost allocation will take into account direct assignment of costs particular to certain customers or customer classes, as appropriate, as well as adjusting costs of these classes for services they do not receive, such as transportation-only customers. The result will be an estimate of revenue requirements by class linked to the aggregate usage and operating expenses of the entire utility.

Hours: 6

City Involvement: None.

Task 11: Conduct Unbundled Cost Analysis

SAIC will develop unbundled costs and revenues for each customer class in the model. The allocated cost-of-service will be unbundled into separate functional categories appropriate to the gas utility. Typical functional categories are: gas supply, transportation, distribution and customer services. Examination of unbundled rates will provide additional information for use in designing rates for the gas utility's customer classes. It will also provide utility staff with useful information for examining potential changes in the gas industry and the effects they may have on the gas utility.

Hours: 4

City Involvement: None.

Task 12: Compare Cost-of-Service to Revenues under Existing Rates

SAIC will compare the allocated cost-of-service with actual Test Year revenues under existing rates and calculate the percentage adjustment, if any, required in each customer classification's annual revenue recovery in order to meet the allocated cost of providing service.

Hours: 4

City Involvement: None.

Task 13: Prepare Initial Report

SAIC will prepare an initial report of the findings to date regarding operating results and cost of service and will submit it to Duluth's utility staff for review.

Hours: 27

City Involvement: None.

Deliverable: Initial Report, including Forecasted Operating Results and Cost of Service.

Task 14: Cost of Service Status and Rate Design Planning Meeting

SAIC will meet with Duluth's gas utility staff via conference call to review the cost of service study results and to identify what, if any, changes are to be made to existing retail gas rates to accomplish cost of service goals, as well as revenue goals. Particular rate issues to be included in this discussion are:

- The effect of eliminating fixed monthly charges in customer rates
- Rate designs to facilitate customer retention and system growth
- Revenue generation for energy conservation
- Full cost recovery from customers switching between full service and transportation-only service
- PGA rate and PILOT calculation methodology

Hours: 4

City Involvement: Participate in conference call meeting.

Task 15: Design Rates and Rate Comparison

Based on the results of the above meeting, SAIC will design proposed new rates for each rate class and prepare a presentation comparing typical monthly bills under existing and proposed rates for customers in each rate class. SAIC will identify changes that would enhance the gas utility's financial integrity and recover costs in an equitable manner. Particular rate issues to be addressed:

- The PGA base rate and methodology will be reviewed and updated as necessary, as it is important that all known costs be incorporated into the gas base rate and that the PGA rate only collect over-and

under-amounts from expected costs. It is also critical that revenues from base rates and the monthly PGA rate be checked against gas costs, to verify that gas related costs are being fully recovered.

- The value of the gas utility providing gas as a back-up fuel to customers will be reviewed.
- The current method of determining transfers to the City's General Fund, known as PILOT, will be reviewed and alternative methods to determine transfers and a recommended method will be offered.
- Any additional rate related issues discussed in Task 14 will be addressed, as needed, in rate design.

Hours: 16

City Involvement: Continued discussion, as needed, on rate designs.

Task 16: Prepare Preliminary Report

SAIC will prepare a written report describing the planning and analyses undertaken in the study. The report will include recommended new rates for each rate class, as necessary, as well as any needed recommendations related to the PGA and PILOT. Estimated operating results and cash reserves at proposed rates will be shown. SAIC will present a copy of this preliminary report to Duluth for review and comment.

Hours: 12

City Involvement: Provide comments on report.

Deliverable: Preliminary Report containing all analysis, findings and recommendations from the study.

Task 17: Submit Final Report

Based on comments received from Duluth utility representatives, SAIC will finalize the report and submit five (5) hard copies and an electronic copy to Duluth.

Hours: 9

City Involvement: None.

Deliverable: Final Report.

Task 18: Present Findings to Duluth Public Utilities Commission

SAIC will meet with representatives of Duluth's gas utility and the Public Utilities Commission and, if requested, participate in a Public Informational Meeting to present the report and to answer any questions regarding the study

Hours: 9

City Involvement: Participate in meeting.

Meetings

This scope includes two (2) meetings in Duluth with representatives of the gas utility and two status meeting conference calls. In our experience, we have found that well-timed conference calls are an excellent and cost efficient method for presenting our clients with the status of the study to-date. Consequently, we have planned our two mid-study status report meetings as conference calls.

- Meeting: Task 2 – Project Kick-Off
- Conference Call: Task 7 – Operating Results Status Meeting
- Conference Call: Task 14 – Cost of Service Status and Rate Design Planning Meeting
- Meeting: Task 18 – Study Presentation

Timeline

The Gantt chart on page 1-8 of this section outlines the major milestones in this study. The timeline is assumed to begin December 1, 2011 unless the contract between Duluth and SAIC has not yet been finalized. Our timeline is designed to meet Duluth's goal of study completion by the end of February 2012. This is an aggressive timeline and will depend on prompt response to the initial data request, as well as all additional requests for information and decisions during the study.

Proposed Schedule
City of Duluth, Minnesota
Gas Cost of Service and Unbundled Rate Design Study

Week of Week Number	December				January				February				
	1	2	3	4	5	6	7	8	9	10	11	12	13
Task 1 - Data Request	█												
Task 2 - Project Kick-Off Meeting		█	█										
Task 3 - Project Future Requirements			█	█									
Task 4 - Estimate Revenue Requirements			█	█									
Task 5 - Estimate Revenues				█	█								
Task 6 - Estimate Operating Costs, Revenues and Cash Reserves					█	█							
Task 7 - Operating Results Status Mtg Conf Call						█							
Task 8 - Classify Costs						█							
Task 9 - Develop Allocation Factors						█							
Task 10 - Allocate Costs						█							
Task 11 - Unbundled Cost Analysis Under Existing Rates							█						
Task 12 - Compare Cost-of-Service to Revenues Under Existing Rates							█						
Task 13 - Prepare Initial Report							█						
Task 14 - Present Initial Results and Discuss Rate Structures								█					
Task 15 - Design Rates									█				
Task 16 - Prepare Preliminary Report										█			
Task 17 - Submit Final Report											█		
Task 18 - Present Findings												█	

M1 - Initial Meeting

CC1 - Conference call to review Operating Results

CC2 - Conference call to review Cost of Service Results and discuss rate design

M2 - Meeting to present findings to the Public Utilities Commission and the Public

I - Initial Report

P - Preliminary Report

F - Final Report

SECTION 2

Labor Rates, Fees, and Project Budget

Labor Rates, Fees, and Project Budget

SAIC proposes to perform the services specified in this proposal under a Professional Services Agreement between the City of Duluth, Minnesota, and SAIC. Based on our estimate of the level of effort needed to complete this scope of services, we propose to bill Duluth a not-to-exceed maximum compensation of \$44,800 for labor and expenses. We propose that, upon submission of monthly invoices, Duluth pay SAIC an amount equal to the actual hours of services furnished multiplied by SAIC's current hourly rates. Additionally, Duluth will reimburse SAIC monthly, at cost or then current rates, for all expenses directly chargeable to services furnished. Our compensation reflects two meetings in Duluth and two conference call status meetings during the course of the study. These formal conference call status meetings will be in addition to more informal calls throughout the study to verify data and assumptions and discuss any issues that arise during the study.

Project Team Member	Labor Hours	Hourly Rate
Dave Berg	33	\$291
Theresa Kervin	213	\$162
Administrative	4	\$54

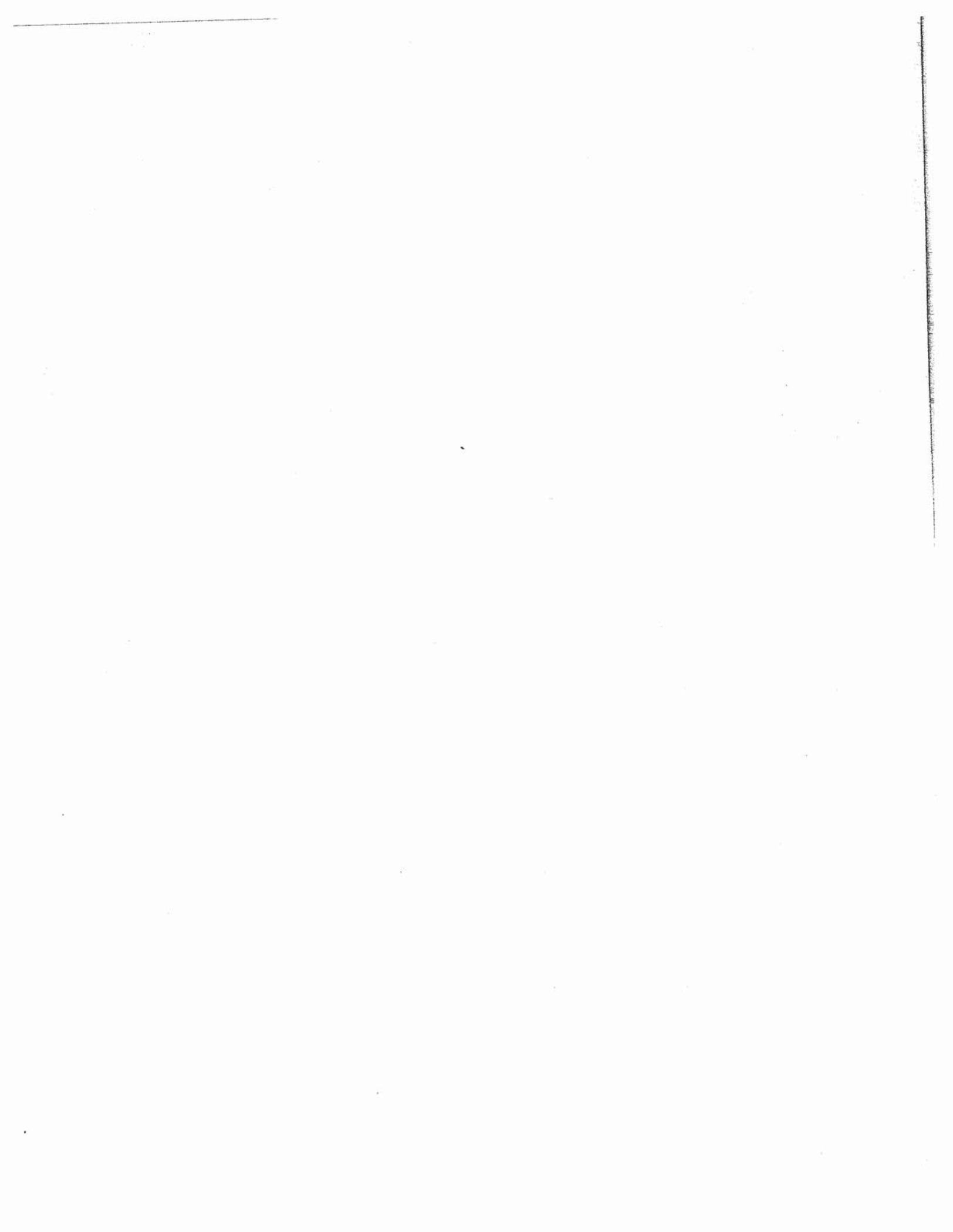
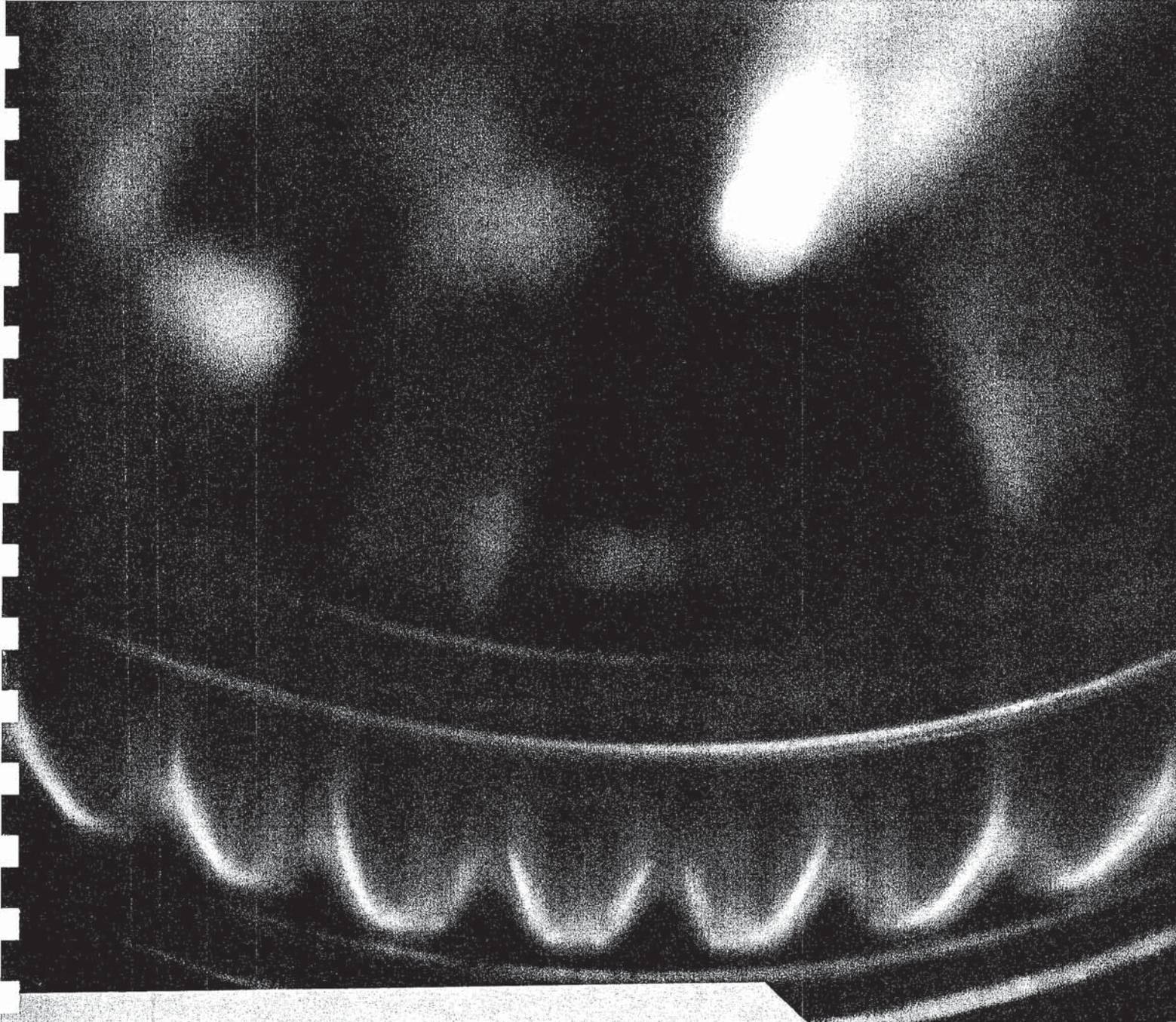


EXHIBIT B
STATEMENT OF QUALIFICATIONS



CITY OF PHOENIX, ARIZONA
PUBLIC WORKS AND UTILITIES DEPARTMENT
PHOENIX, AZ

NATIONAL CONTRACTORS ASSOCIATION

STATE WIDE ONE DAY TRAINING
10/10/07 11:00 AM

SAIC



October 31, 2011

City of Duluth
Purchasing Department, Room 100
411 West 1st Street
Duluth, MN 55802

Attention: Dennis Sears

Subject: **Statement of Qualifications for City of Duluth Natural Gas Cost of Service and Rate Study – RFQ No. 11-0528**

Dear Mr. Sears:

The City of Duluth Public Works and Utilities Department's gas utility is requesting consulting services to perform a full natural gas cost of service and rate design study. The SAIC project team (formerly R. W. Beck) of David Berg and Theresa Kervin are well qualified for this task. Dave and Theresa were the primary project team that performed Duluth's last natural gas rate study in 2006. During that study, we became familiar with the complex mix of gas supplies and customer service options, including contract customers, as well as the utility's purchased gas adjustment (PGA) methodology and its importance in balancing fluctuating gas costs and customer revenues.

In addition to the proposed project team, the entire firm of SAIC has earned the trust of municipal utilities of all sizes and locations, having worked for public utilities for more than 65 years. We share an acute appreciation of the relationship between governing bodies, utilities, and their customers—especially the understanding of how these relationships can become tenuous in the face of economic, environmental, and political adversity. As demonstrated in our proposal, we offer numerous benefits to Duluth, and believe we are best qualified to complete the gas cost of service and rate design study.

First and foremost, SAIC views this assignment as strategic in nature. Rate analysis can be a complex assignment that involves numerous and detailed calculations. In addition to financial considerations, issues in rate work can also be both technical and political in nature. Without a clear strategic view of the underlying business objectives important to the process, it is easy to "lose one's way" as the work unfolds. SAIC understands the linkage between business strategy, political reality, and the technical methodologies used in these studies. We understand how to anticipate study results and mitigate issues beforehand that may undermine Duluth's efforts to achieve important goals associated with a revised rate program.

We have done this before. SAIC has been involved at strategic and technical levels related to rates for numerous utilities over the years. Members of our project team have performed just these kinds of services for over 25 years, working closely with utility staff and policymakers in all phases of these projects. Our proposed project manager has been the lead instructor for an industry cost of service and rate design course since 2004.

SAIC Energy, Environment & Infrastructure, LLC

1380 Corporate Center Curve, Suite 305 | St. Paul, MN 55121 | tel: 651.994.8415 | fax: 651.994.8396 | saic.com/EEandI



Dennis Sears
October 31, 2011
Page 2

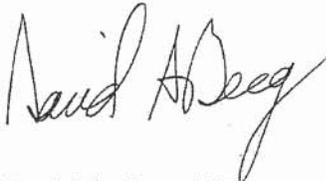
We have a deep bench of expertise. As a multifaceted organization, SAIC provides the resources of a large interdisciplinary group possessing financial, community involvement, and utility operations expertise. We have state-of-the-art expertise and are able to draw on other disciplines as needed.

We work for municipal utilities of all sizes on complex assignments. SAIC has been in the utility rate consulting business since the 1940s, and we have worked with some of the largest municipal utilities across the country, including Los Angeles Department of Water and Power, Imperial Irrigation District, Austin Energy, CPS Energy, Colorado Springs Utilities, Santee Cooper, and Sacramento Municipal Utility District. We have developed a broad base of experience in providing financial consulting services that include rate studies; expert testimony in rate, utility, and finance matters; periodic reports on utility systems and operations; analyses of project feasibility; and implementation of required certificates under revenue bond resolutions.

We look forward to assisting Duluth with this important project. If you have questions concerning this statement of qualifications or would like additional information, please contact me at (651) 289-2513 or david.a.berg@saic.com

Sincerely,

SAIC Energy, Environment & Infrastructure, LLC



David A. Berg, P.E.
Senior Project Manager

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SECTION 1

Relevant Project Experience

Relevant Project Experience

Introduction

SAIC Energy, Environment & Infrastructure, LLC (SAIC), formerly R. W. Beck, brings proven expertise in every facet of utility consulting services, from strategic planning and financial and rate analysis to regulatory and expert witness services. In all of our work, we keep a focused, business-centric approach. Our technical and management capabilities help keep costs low, reduce time required to complete projects, manage complexity, and boost your competitive edge.

The SAIC team brings decades of experience in helping utilities develop rates that are fair to customers and provide stable revenues to the utilities. Since 2004, team members have taught cost of service and rate classes that attract utility staff, regulators and attorneys from across the globe.

Proven Proficiency in Utility Cost of Service and Rate Consultation

For decades, SAIC has helped utilities achieve financial stability in alignment with their strategic objectives. We have performed countless cost of service and rate design studies to accomplish the myriad goals of small to large utilities throughout the country. We are skilled in presenting complex, technical information in understandable ways, presenting our analysis using text, tables and graphs to our audience.

Benefit to Duluth:

The SAIC team's long-time experience in the regulatory arena will assure Duluth that our work products and our recommendations can withstand the scrutiny of the regulatory process.

Since 2004, team members have taught cost-of-service and rate classes that attract regulators, attorneys, and independent power producers, as well as management and staff from various utilities across the globe.

The firm's personnel are often called upon to provide reliable, verifiable, and objective analysis and information to support utilities' positions on rate, regulatory, economic, taxation, and technical matters.

Recent Relevant Experience

The remainder of this section presents a targeted sampling of our cost-of-service and rate design work with gas, electric and water utilities in Minnesota and nationwide, including our work for Duluth. Many of our clients are repeat customers, having worked with SAIC—previously R. W. Beck—multiple times on projects similar to that proposed by Duluth.

The project descriptions presented herein include complete cost-of-service and rate design studies, as well cost-of-service and rate design education experience.

Please note that many of these projects were completed by R. W. Beck prior to the firm's acquisition by SAIC.

We have no learning curve...

SAIC is already familiar with Duluth's gas utility's complex mix of gas suppliers and customer service options, including contract customers, as well as the utility's purchased gas adjustment (PGA) methodology and its importance in balancing fluctuating gas costs and customer revenues.

Natural Gas Cost-of-Service and Unbundled Rate Study

City of Duluth, Minnesota

To sufficiently cover operating expenses and revise the rate structure to reflect results of an unbundled cost-of-service study, the firm worked with the City of Duluth Gas Utility (Duluth) to increase its rates and revise the Purchased Gas Adjustment (PGA). Duluth's gas utility operations were complicated, due to existing gas capacity contracts with three different pipelines, each with different rates and capacity requirements. Duluth also purchased commodity gas from several different sources, and also offered a variety of short term contract rates to its retail customers. The contracts with the retail customers were of different lengths of time and the rates offered were based on the forecasted commodity cost of gas during the contract term and consequently differed for each customer. Sometimes, the gas contract rate was based on the cost of the alternative fuel. Different adders were included for firm versus interruptible contract customers to cover the marginal cost of gas capacity purchases, transfers to the City and margin. The cost-of-service analysis determined the need for revisions to both firm and interruptible rates. The analysis also determined the need for revisions to the adders included in the contract rates. Our project team recommended that one of the interruptible rates be eliminated and that the contract rates include an adder to cover internal utility costs attributed to contract sales. A system was also recommended to track monthly costs of gas for regular customers versus contract customers, in order to accurately calculate the PGA each month.

Electric and Natural Gas Cost-of-Service and Unbundling Study

Hutchinson Utilities, Minnesota

The firm performed an electric and natural gas cost-of-service and unbundling study for Hutchinson Utilities (HU) and designed new retail rates for all customer classes for the two utility divisions. The cost-of-service studies for the utility divisions determined the rate changes needed in order for each class to pay its fair share of the costs to provide utility services. Costs and rates were then unbundled into appropriate

categories for each utility. The gas interruptible rate classes were eliminated, due to changes in HU's wholesale supply contract. Rates were proposed for all rate classes to better reflect the results of the cost-of-service and unbundling analyses, as well as to provide sufficient revenue to cover forecasted operating and capital improvement expenses.

The Power Cost Adjustment (PCA) for the electric division and Fuel Cost Adjustment (FCA) for the gas division were revised to reflect current wholesale supply costs. As HU had recently changed its wholesale power supplier, extensive analysis was done to forecast power costs under the new contract. Extensive analysis was also completed on the costs of HU's natural gas fired electric generation for its own retail customers as well as resale customers. Street light costs were analyzed and recommendations were made on how best to determine transfers to the City.

Natural Gas Cost-of-Service Study

New Ulm Public Utilities Commission, Minnesota

The firm has conducted one natural gas cost-of-service and rate design study for the New Ulm Public Utilities Commission and is currently working on an electric and steam study. Included in the gas study was a forecast of the Gas Department's future revenues and revenue requirements, an evaluation of the allocated cost of serving each customer classification and the design of the proposed new gas rates.

In the gas study, unbundled costs were developed for each customer class. Several rate changes were then proposed. The purchased gas adjustment methodology and base rates were updated to reflect the current costs of natural gas purchases, as well as New Ulm's recent agreement for firm transportation capacity. The Interruptible rate was eliminated and most customers moved to a new Industrial class. The size requirements of the Commercial class were revised and a new Small Commercial class was created. A new Interruptible Transportation class was also created. Rates were proposed for each class to better reflect unbundled costs, as well as increase revenues to meet annual operating expenses

Electric, Gas, and Water Cost-of-Service and Rate Design Study

Austin Utilities, Minnesota

The firm performed two electric, natural gas, and water cost-of-service and unbundling studies for Austin Utilities and designed new retail rates for a range of customer classes for the three utility divisions, as well as a new Purchased Gas Adjustment (PGA). In the first study, the electric utility was in need of a significant rate increase, due to rate increases from its wholesale power provider. In addition, the cost-of-service analysis showed the need for adjustments between rate classes. New rates were designed to increase revenues, to adjust for the results of the cost-of-service and unbundled cost analyses, and to eliminate unneeded rate schedules. New rates were also designed for the gas utility to increase revenues and better reflect unbundled gas costs. The gas rates were also simplified by reducing the number of rate blocks in these two-season rates. A new PGA was developed that reflected only the cost of purchased gas for the retail customers and the PGA base rate was increased to reflect the current base cost of purchased gas. The water utility also needed to increase its revenues to meet its operating expenses. The declining block water

rates did not promote conservation and did not accurately reflect the proportion of fixed versus variable costs of the water utility. The newly designed water rates increased revenues, increased monthly charges to reflect fixed costs, and reduced the four-block commodity rate to a two-block commodity rate, which was the first step in eliminating Austin Utilities' declining block water rates. In our second study, we adjusted rates to collect for revenue requirements and also continued the transition to eliminate unneeded rate schedules and revised water rates to a one-block, two-season rate schedule.

Electric, Gas, and Water Cost-of-Service and Rate Study

Owatonna Public Utilities (OPU), Minnesota

The firm performed three natural gas and electric and two water cost-of-service and unbundling studies for OPU, along with designing new retail rates for all customer classes in the three utilities. OPU required a cost-of-service study for each of their three utilities to determine the rate changes needed in order for each class to pay its fair share of the costs to provide utility services. Costs and rates were then unbundled into appropriate categories for each utility. Electric utility costs were unbundled into six components: wholesale power; transmission; distribution; customer facility; customer accounting; and contribution to the city. Gas utility costs were unbundled into five components: purchased/production gas; distribution; customer facility; customer accounting; and contribution to the city. Water utility costs were unbundled into four components: water supply; customer facility; customer accounting; and contribution to the City. The Energy Cost Adjustment (ECA) and Purchased Gas Adjustment (PGA) were also revised to reflect current wholesale supply costs and unbundled rates from the test year adjusted as needed to provide sufficient revenue to cover forecasted operating and capital improvements expenses. Street lights and security lights costs were also analyzed and new rates were developed.

Electric Cost of Service and Rate Design Study

Grand Rapids Public Utilities, Minnesota

The firm performed an electric cost of service and rate design study 15 years ago for Grand Rapids Public Utilities and has since performed another full cost of service and rate study, plus two electric rate updates. The full cost-of-service study involved: forecast of operating results based on estimated revenue requirements and revenues at current rates, and a cost analysis to determine the need for adjustments in rate levels to more closely correspond to the cost to serve each customer class. New rates designed in our studies were further analyzed to provide unbundled rates for use by management. In this analysis, the retail rates are separated into four cost components: cost of purchased power, transmission, distribution, and customer services in order to assist the utility in its financial and power supply planning. Additional services included a half-day training session for utility management and staff members. The firm also examined the service fee schedule to determine if the charges accurately reflect the cost to perform the services.

Electric Cost-of-Service and Unbundling Study

Ames Municipal Electric System, Iowa

The firm is now completing an electric cost-of-service and unbundled rate study for Ames Municipal Electric System. Ames has a mix of self-generation and purchased power supplies. Its self-generation

consists of two baseload units fueled both by coal and locally produced refuse-derived fuel, as well as two gas-fired peaking units. In addition, Ames purchases wholesale power supplies from Midwest Independent System Operator (MISO), as well as wind energy. Ames provides steam service to a local hospital and has recent significant load additions to its electric system that must be included in its power supply forecast and pro forma operating results. The study for Ames also includes cost analysis and rate design for its street and security lighting systems. As part of this study, we developed an electronic cost-of-service model for Ames to use in future years to update this analysis, and we provided staff training in the use of this model.

Electric Cost-of-Service and Rate Design Study

Imperial Irrigation District, California

The Imperial Irrigation District (IID), one of the largest government-owned utilities in the United States, serves the rapidly growing area of Imperial Valley, California. Due to new growth in the area, IID needed a study to determine the appropriate fee to charge for new connections, in order to maintain IID budgets and not pass unnecessary costs to existing customers. The firm performed a review of the cost-of-service.

The results of our study indicated that a low percentage of the costs to provide service were recovered through fees charged by IID. This was caused by IID's policy not to recover certain costs through fee reimbursement and by the number of years that had elapsed since the fees were last increased. Study results were presented to the Power Consumers Advisory Committee and the Board of Directors. The IID board directed staff to update the fees and return to the board for approval of new fees. The firm performed an update to this study in 2006. We also performed a comprehensive electric cost of service and rate design study for the IID, with new rates that became effective in January 2009.

The firm designed a mandatory cost-based "time-of-use" rate, as well as a corresponding time-differentiated energy cost recovery clause and factor(s) for commercial customers having a metered demand of a certain size. The rate and the accompanying energy adjustment clause were designed to match estimated time differentiated customer loads and the utility's production cost modeling results. We also assisted IID by developing rate designs for net metering and interruptible rates and a high-voltage rider.

Cost-of-Service and Unbundled Rate Design Training Class

Electric Utility Consultants, Inc.

SAIC teaches cost of service and rate classes that have attracted regulators, attorneys, and independent power producers, as well as management and staff from all types and sizes of utilities. Participants from Australia, Ireland, South Africa, Turkey, Japan, and China have worked with U.S. and Canadian participants to learn the background of cost-of-service and rate design. They immediately put their knowledge to work as each individual uses a computer-based model to practice the lesson. Each lesson builds on the last as the students work through the steps to final rate design in a case study that closely mimics the competitive world of today's utilities. Students learn the art, as well as the science, of cost analysis and rate design. These four-day intensive training classes have been held twice a year since 2004 in cities throughout the United States and are taught by SAIC professionals with decades of experience in helping utilities develop rates that are fair to customers and provide stable revenues to the utilities.

SECTION 2

Example Report

SAIC[®]

Example Report

SAIC has worked for a variety of utilities, providing services such as natural gas cost-of-service and rate design studies. We communicate data to audiences with varied knowledge and backgrounds, and it remains a goal to present complex data and analysis in a way that is understandable.

To demonstrate this capability, we have included a copy of the report prepared by our team members for the 2006 natural gas study for Duluth. Due to the length of the report, it is located in Appendix A.

SECTION 3
Approach

Approach

Project Understanding

The City of Duluth, Public Works and Utilities Department (Duluth), requests consulting services for the development of a cost-of-service analysis and rate design study for Duluth's gas utility.

Duluth's gas utility purchases natural gas supplies from several suppliers through several different pipelines. Duluth's gas utility then distributes the gas to full service and interruptible customers. In addition, Duluth provides gas transportation services to its transportation-only customers. The gas utility must operate in a complex environment that requires a unique understanding and approach to rates to ensure the continued financial health of the utility. Through this study, Duluth is seeking to update its retail gas rates, review pricing for back-up gas services and revise its PGA and PILOT calculation methodologies, as needed. Duluth is also looking for recommendations related to customer retention, system growth and energy conservation.

SAIC's rate analysts address:

- Revenue Requirements
- Allocated Cost-of-Service
- Rate Design
- Compliance with Regulatory Requirements and Industry Standards
- Tariff Structure in Ordinances/Resolutions
- Conservation Programs

Project Approach

Our approach for the Duluth cost-of-service and rate design study is designed to provide accurate and defensible study results that support the immediate and long-term goals of the City. We emphasize adherence to accepted methods of analysis for performing the type of work proposed. We also promote ongoing collaboration with the City through each step of the process and each phase of the study. This provides opportunity to validate our assumptions and align our work product with the City's requirements and expectations.

Step 1: Five Year Forecast of Revenues and Revenue Requirements

The first step in our study is to develop a five-year forecast of revenues and revenue requirements. As we review historical records of operating expenses, customer sales, and revenues at existing rates and gas supply and transportation costs, we will be discussing the numbers with Duluth to be sure we understand them and know how to use them properly to forecast Duluth's operating results for the upcoming five years. We will review gas purchase contracts to assure that our gas supply and transportation cost forecast is realistic, since the majority of a gas utility's operating expenses are due to gas supply costs. We will also test-match our calculation of customer sales revenues with recorded revenues, to assure that our revenue forecast at existing rates is accurate. As we develop our forecasted revenues and revenue requirements, we will have Duluth review our sales growth assumptions and cost escalation assumptions.

The end result of our analysis is a 10-year picture of Duluth's gas utility operations: five historical years and five forecasted years. Estimated net income and cash flow under existing rates will be clear for Duluth to see. This model will provide the basis for discussions of the need for any overall retail rate revenue adjustments.

Step 2: Cost-of-Service Analysis

The second step in our study is the cost-of-service analysis. Our analysis is based on historical costs. We will classify costs based on accepted methods in the utility industry and we will unbundle costs according to the business units used by Duluth. Our customer allocation factors will use recorded customer statistics provided by Duluth, as well as estimated weighting of customer classes based on our experience and discussions with Duluth.

The end result of this analysis is a comparison of the costs to serve each class versus the revenues that are collected from each class. In addition, the unbundled analysis provides a comparison between the unbundled costs for each class and the components of each rate schedule. This comparison provides guidance in designing new rates. The analysis will be contained in a computer model available to Duluth, as it is for all of our rate clients.

We will deliver an Initial Report that contains the results of the analyses described above. The results will be presented in text, table and graphic format. It will be provided to Duluth for review before we meet with Duluth representatives to discuss rate design. The results of our analyses will provide information on the overall level of rate adjustments needed, in addition to the difference between costs and revenues for each customer class.

Step 3: Rate Design

We will use the information presented in our Initial Report as the basis for discussing rate design options with Duluth. We will discuss rate options for each class, including any new rate options discussed at the beginning of this study. We will develop the rates and bill comparisons for each class based on the guidance from our discussions. We will also develop a revised five-year forecast of operating results that shows the effect of the proposed rates on net income and cash flow. We will prepare our Preliminary Report containing all the information from the Initial Report plus proposed rates, monthly bill comparisons for all rate classes and five-year forecasted operating results at proposed rates. Duluth will then review this Preliminary Report and provide comments before we prepare our Final Report.

Conclusion

SAIC is fully capable of performing all tasks in this cost-of-service and rate design study, as we have been performing this type of work for decades. We do not see the need for any optional tasks or alternatives to the general scope of services outlined in Duluth's Request for Qualifications and Project Proposal.

SECTION 4

City Staff Involvement

City Staff Involvement

A top priority for SAIC at the start of any project is to obtain complete understanding of the City's goals, requirements, and expectations.

For the Duluth cost of service and rate design study, we will invite City representatives to the project kickoff meeting to discuss the goals and address important issues. At the conclusion of the project, we will meet again with City representatives to review the study results and to discuss rate design.

Throughout project execution, SAIC will host conference calls with the City, as needed, to discuss known issues and anything new that presents itself as we develop our financial picture of the utility.

We expect the City to supply the data and information needed to develop an accurate and complete financial model of the utility and to be responsive to additional questions and data requests as the study progresses. We also expect the City to clearly understand and communicate to us its goals for the study.

SECTION 5
Project Team

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Project Team

Introduction

SAIC has assembled a project team with the insight, expertise, understanding, and responsiveness needed to drive successful execution of the Duluth cost of service and rate design study.

SAIC believes that collaboration is the key to a successful project, and the selected SAIC personnel share the fundamental belief in the importance of that approach, and offer the skills and experience necessary to make it happen. The expertise of our team members provides the depth and knowledge needed to work collaboratively with Duluth staff, every step of the way.

The remainder of this section presents our team and their qualifications to perform the proposed work. Our team is structured to promote efficiency and simplicity in responding to the City's needs. Should additional support be necessary, SAIC has a staff of more than 40 individuals nationwide who are qualified in the disciplines of rates and economics.

Project Team Qualifications

We have assigned Dave Berg as the Project Manager and Theresa Kervin as the Project Analyst. Both are leading rate consultants who have worked closely with utility staff and policymakers nationwide for more than 20 years. Of particular relevance is the fact that this same team assisted Duluth with a similar gas rate study in 2006.

In addition to the work performed for Duluth, Mr. Berg has led projects in Minnesota and other states that are similar to Duluth in scope and size. He is very familiar with municipal utilities and the challenges they face, such as the complexity of rate analysis, competing goals of accurate pricing signals to customers, customer acceptance, revenue sufficiency, administrative ease in rate implementation, and compliance with applicable regulations.

As project manager, Mr. Berg will monitor the day-to-day progress of our work and will serve as the primary interface between Duluth and SAIC for the study. He will direct the study analysis, manage the scope, budget, and schedule of the study and oversee SAIC's response to any additional assignments. The SAIC team is immediately ready to evaluate Duluth's rates and provide well-founded, expert analysis as input to your rates strategy development. SAIC stands alone in the strength of its staff to provide financial services.

Benefit to Duluth:

*Having led projects in several states that are similar to Duluth in scope and size, **Project Manager David Berg** is familiar with municipal utilities and the challenges they face—He understands how to anticipate study results and mitigate issues beforehand that may undermine Duluth's efforts to achieve its rate design and revenue goals.*

Project team credentials are summarized in the table below. Detailed resumes are provided in Appendix B.

Team Member / Role / Office Location	Primary Assignment / Qualifications
<p>David A. Berg</p> <p>Role: Project Manager</p> <p>Office Location: St. Paul, MN</p>	<p>Mr. Berg brings 27 years of consulting experience to the public utility sector. Utilizing a unique blend of technical and financial expertise, he effectively guides his varied clients through a wide variety of regulatory, operational, and technical challenges.</p> <p>Mr. Berg has served as Project Manager on a number of project similar in size and scope to the work proposed by Duluth for several municipalities in Minnesota including: the Cities of Duluth; Owatonna, MN; Hutchinson, MN; New Ulm, MN; and Austin, MN.</p> <p>Mr. Berg assists utilities in planning for their financial and operational success in an increasingly complicated environment, as well as in educating them on the particular industry changes that could most significantly affect their operations. Serving as a trusted advisor on feasibility, financing, and contract negotiation projects, he provides a sound technical and financial basis upon which his clients rely to make decisions on purchasing, selling, or modifying facilities.</p> <p>An SAIC leader in cost-of-service and rate design, Mr. Berg has led numerous studies to help utilities improve their rates in today's competitive climate. His rate recommendations are designed to improve the utilities' financial future while providing fair rates with correct pricing signals for the utilities' customers. For the last seven years, Mr. Berg has also taught cost-of-service and rate design classes at locations around the country to hundreds of utility staff, regulators, attorneys, and other industry professionals.</p>
<p>Theresa Kervin</p> <p>Role: Project Analyst</p> <p>Office Location: St. Paul, MN</p>	<p>Ms. Kervin has 32 years of experience and is a senior analyst who performs research and analysis for public power systems and solid waste management districts. In her work with municipal electric, gas, water, telecommunications, and solid waste utilities, she analyzes utility financial records and operating statistics and develops pro forma operating results. She has performed numerous cost of service and rate design studies and has co-authored a rate design guide for small public power systems.</p> <p>Prior to joining SAIC, Ms. Kervin was employed at a large California electric and gas utility, where she was involved in the preparation of load research programs, cost-of-service studies, rate design studies, rate case testimony, and budget development.</p>

SECTION 6
Schedule

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Schedule

Proposed Schedule City of Duluth, Minnesota Gas Cost of Service and Unbundled Rate Design Study

Week of Week Number	December				January				February				
	1	2	3	4	5	6	7	8	9	10	11	12	13
Task 1 - Data Request	█												
Task 2 - Project Kick-Off Meeting		█	█										
Task 3 - Project Future Requirements			█	█									
Task 4 - Estimate Revenue Requirements			█	█									
Task 5 - Estimate Revenues				█	█								
Task 6 - Estimate Operating Costs, Revenues and Cash Reserves					█	█							
Task 7 - Operating Results Status Mtg Conf Call						█							
Task 8 - Classify Costs						█							
Task 9- Develop Allocation Factors						█							
Task 10 - Allocate Costs						█							
Task 11 - Unbundled Cost Analysis Under Existing Rates							█						
Task 12 - Compare Cost-of-Service to Revenues Under Existing Rates							█						
Task 13 - Prepare Initial Report							█						
Task 14 - Present Initial Results and Discuss Rate Structures								█					
Task 15 - Design Rates									█				
Task 16 - Prepare Preliminary Report										█			
Task 17 - Submit Final Report											█		
Task 18 - Present Findings												█	

M1 - Initial Meeting

CC1 - Conference call to review Operating Results

CC2 - Conference call to review Cost of Service Results and discuss rate design

M2 - Meeting to present findings to the Public Utilities Commission and the Public

I - Initial Report

P - Preliminary Report

F - Final Report

SECTION 7

Client References

Client References

We have built our reputation for project excellence by providing clients with solutions that are based on sound engineering principles, economic feasibility, and innovative thinking without losing sight of budget and schedule considerations and constraints. The confidence of our clients in our capabilities is reflected in the long-term relationships that we have developed by successfully supporting their needs over the span of many years, often decades.

This section provides key client references. We take pride in the client relationships we have formed in each of the requisite service areas and encourage Duluth to contact our references for a candid assessment of the team's successes in providing responsive, timely, and high-quality consulting services to our clients.

Please note that some of the projects in the table below were performed by the firm either before its acquisition by SAIC in 2009 or before the R. W. Beck's transition to the SAIC Energy, Environment & Infrastructure organization this year. We ask that you identify both SAIC and R. W. Beck when contacting the client references.

Client and Project	Contact Information
Client: Imperial Irrigation District, California Project: Electric Cost of Service and Rate Design Study	Mr. Greg Broeking Chief Financial Officer gabroeking@iid.com Phone: (760) 339-9345
Client: Austin Utilities, Minnesota Project: Electric, Gas, and Water Cost of Service and Rate Design Study (multiple)	Ms. Ann Christianson Financial Manager annc@austinutilities.com Phone: (507) 437-0841
Client: Hutchinson Utilities, Minnesota Project: Electric and Gas Cost of Service and Rate Design Study	Mr. Mike Kumm General Manager mkumm@ci.hutchinson.mn.us Phone: (320) 587-4746
Client: Ames Municipal Electric System, Iowa Project: Electric Cost of Service and Rate Design Study	Mr. Don Kom Director, Electric Services dkom@city.ames.ia.us Phone: (515) 239-5171
Client: Grand Rapids Public Utilities, Minnesota Project: Electric Cost of Service and Rate Study	Mr. Anthony Ward General Manager atward@grpuc.org Phone: (218) 326-7024

SECTION 8

SAIC Contact Information

SAIC[®]

SAIC Contact Information

Please contact Mr. David Berg with any questions or comments that might arise regarding this qualifications package. Mr. Berg's contact information is as follows:

Mr. David A. Berg, P.E.

Senior Project Manager

SAIC

1380 Corporate Center Curve, Suite 305

St. Paul, Minnesota 55121

Phone: 651.289.2513

Fax: 651.994.8396

Email: David.A.Berg@SAIC.com

Appendix A

Example Report

Final Report

Gas Cost-of-Service and Unbundled Rate Study

City of Duluth, Minnesota

AUGUST 2006





August 17, 2006

City of Duluth
Public Works and Utilities Department
City Hall
411 West 1st Street
Duluth, MN 55802-1102

City Council:

Subject: Gas Cost of Service and Unbundled Rate Study Report

Transmitted herewith is the report of our study of the retail gas rates for the City of Duluth gas utility. This study has been completed to determine recommended adjustments in Duluth's retail gas rates.

There are four principal components to the study. The first of these is an examination of the revenue requirements for Duluth's gas utility. To remain financially sound, Duluth's gas utility must produce sufficient revenues through its retail rates to cover its revenue requirements. The second component of the rate study is the cost-of-service analysis. The gas cost-of-service analysis is performed to determine the allocated cost of providing service to each class of customers. The third component of the rate study is the development of unbundled rates. Unbundled rates reflect the various cost components of providing retail gas service to each customer class.

The final component of the rate study is the design of new gas rates. The new rates have been designed, taking into account the results of the revenue requirements, cost-of-service analysis and unbundled analysis. Section 5 of the report presents our recommendations and the proposed rates developed as a result of our analyses.

Thank you for the opportunity to have prepared this study for Duluth. We would like to express our appreciation for the valuable assistance provided by Duluth gas utility and city staff during the performance of this study.

Sincerely,

R. W. BECK, INC.

David A. Berg, P.E.
Principal and National Director

01-00345-10101-0101 / 070385 | 013554 | Duluth\Report letter

City of Duluth, Minnesota Final Report

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This report has been prepared for the use of the client for the specific purposes identified in the report. The conclusions, observations and recommendations contained herein attributed to R. W. Beck, Inc. (R. W. Beck) constitute the opinions of R. W. Beck. To the extent that statements, information and opinions provided by the client or others have been used in the preparation of this report, R. W. Beck has relied upon the same to be accurate, and for which no assurances are intended and no representations or warranties are made. R. W. Beck makes no certification and gives no assurances except as explicitly set forth in this report.

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INTRODUCTION

The City of Duluth, Minnesota owns, operates and maintains a municipal utility which provides retail gas service to its residents and businesses. Duluth provides gas service to approximately 25,000 retail customers. Overall responsibility for the operations of the gas utility is charged to the Duluth Public Works and Utilities Department. The Duluth City Council has the authority to review and set the rates for service charged by the gas utility.

R. W. Beck has performed a cost-of-service and rate design study for Duluth's gas utility. The study included an analysis of estimated revenue requirements for 2006 - 2010 (the "Study Period"), the preparation of detailed cost-of-service analyses based on a 2004 Test Year, a rate analysis and the development of proposed new gas rates for each customer classification. This report summarizes the analyses undertaken in our study of Duluth's retail gas rates and describes the results of our study and our recommendations. The cost-of-service analysis performed for each of Duluth's retail gas customer classifications was based on fully embedded costs. The rate design portion of the study includes recommendations on retail rates for each customer classification.

ESTIMATED OPERATING RESULTS - EXISTING RATES

To remain financially sound, Duluth's gas rates must produce sufficient revenues to cover the cost of providing natural gas service and to permit the continued replacement and expansion of its facilities. These expenditures are commonly referred to as "revenue requirements" and consist of normal operating expenses, capital improvements and additions, contributions to the City and non-operating expenses.

Periodically, a utility must examine its current and forecasted revenues and expenses to verify that the total revenue, including interest earnings and miscellaneous income is sufficient to cover all revenue requirements. This part of the study compares projected income earned from revenues at present rates to the expenses expected to be incurred in serving customers during the Study Period.

In order to determine the adequacy of Duluth's existing gas rates, we have worked with Duluth gas utility personnel to develop estimates of the annual revenues and revenue requirements for the Study Period. These estimates serve as the basis for determining the overall level of revenue recovery and provide a foundation for our cost-of-service analyses. The analyses and assumptions incorporated in our development of estimated revenues and revenue requirements are described below.

Historical Gas Requirements

Duluth receives gas pipeline transportation services from Northern Natural Gas (NNG), Great Lakes Gas Transmission Company (GLGT) and TransCanada (TC). The utility purchases a portion of its natural gas requirements at prices previously locked in and purchases the remainder of its gas requirements at market rates. Duluth's historical natural gas requirements for 2001 through 2004 are shown in the table below. Data for 2005 have not been finalized.

Historical Gas Requirements (MCF)

Year	Retail Sales	Losses	Total	Annual Percent Change
2001	4,928,922	(153,426)	4,775,496	
2002	5,215,875	66,660	5,282,534	10.6%
2003	5,274,025	261,097	5,535,122	4.8%
2004	5,061,354	118,113	5,179,467	(6.4%)
2005	Not Available	Not Available	Not Available	Not Available

Estimated Gas Requirements

Duluth’s forecasted gas consumption for the Study Period is shown in the table below. The consumption reflects sales to Duluth’s retail customers and system losses. Forecasted gas consumption is based on historical consumption levels and growth rates, plus discussions with Duluth utility staff on expected sales growth during the Study Period.

Estimated Gas Requirements (MCF)

Year	Retail Sales	Losses	Total	Annual Percent Change
2006	4,814,498	148,902	4,963,400	
2007	4,894,274	151,369	5,045,643	1.7%
2008	4,951,424	153,137	5,104,560	1.2%
2009	5,009,396	154,930	5,164,325	1.2%
2010	5,068,203	156,749	5,224,951	1.2%

Estimated Revenue Requirements

A forecast of Duluth’s gas utility expenses, called revenue requirements, has been prepared for the Study Period. These revenue requirements consist of purchased gas costs and operating and non-operating expenses.

Estimated revenues from the sale of gas at current rates during the Study Period have been forecasted and compared to the revenue requirements. The estimates of the Study Period revenues and revenue requirements are contained as Exhibit 2-A at the end of this report section.

Estimated revenue requirements for the Study Period were developed based on Duluth’s annual financial reports for 2001 through 2004, 2005 preliminary records, budgeted expenses for 2006, estimated wholesale gas bills, and discussions with Duluth utility personnel. The assumptions used in these estimates are explained in detail below.

Purchased Gas Expenses

Projected capacity and commodity expenses for 2006-2010 are based on forecasted rates and expenses, as developed through discussions with Duluth utility staff. Duluth receives pipeline transportation services from NNG, GLGT and TC. NNG is expected to increase its rates for transportation services during the Study Period. A planned 1.2 percent increase is shown for October 2006. It is assumed that an additional 15 percent increase will be implemented by NNG in November 2008.

The table below shows the forecasted transportation rates from NNG. Similar levels of rate increases are expected for System Management Services (SMS) rates, fuel charges and commodity based transportation rates. Duluth also is forecasted to pay \$33,600 per month during winter months and \$16,800 per month during non-winter months for the Carlton surcharge.

**Forecasted Northern Natural Transportation Rates
Per MCF of Contracted Capacity**

Date	T12B Summer	T12B Winter	T12V Summer	T12V Winter	T5
Jan 2006	\$5.6170	\$10.1110	\$5.6170	\$13.7050	\$14.9760
Oct 2006	5.6830	10.2300	5.6830	13.8660	15.1530
Nov 2008	6.5355	11.7645	6.5355	15.9459	17.4260

Duluth's estimated reservation fees with GLGT are \$ 20,748 per month and its estimated reservation fees with TC are \$73,000 per month. Storage costs vary per month.

Duluth has a portion of its gas commodity purchases locked in. It purchases the remainder of its gas at market prices. R. W. Beck provides natural gas market analysis and gas price forecasting services to its clients. Our long term gas price forecast for Henry Hub is updated every quarter and is available on R. W. Beck's web site. For this rate study, we have used the gas commodity prices from this forecast by R. W. Beck's Natural Gas and Fuels Price Forecasting Practice. The gas prices used were last updated during the Second Quarter 2006. Based on this long term forecast, commodity prices are forecasted to decrease gradually during the Study Period. Therefore, commodity related costs are forecasted to decrease, even though gas volumes purchased will increase during the Study Period.

The table below shows the estimated wholesale gas capacity, storage and commodity expense for the projected purchases shown in the table earlier in this section. This table reflects the total gas expenses for supplying Duluth's retail customers, as well as its Supplemental Agreement customers.

Section 2

Estimated Wholesale Gas Expense

Year	Capacity Cost	Storage Cost	Commodity Cost	Total
2006	\$3,846,408	\$2,677,483	\$42,732,960	\$49,256,851
2007	3,775,694	2,600,010	37,790,858	44,166,562
2008	3,804,309	2,561,398	34,390,069	40,755,776
2009	3,950,112	2,520,518	30,677,387	37,148,017
2010	3,964,003	2,488,649	27,791,561	34,244,213

Operating Expenses

Operating and maintenance expenses incurred are related to Utility General Expenses, Engineering, Utility Operations Service Division and Sales Promotion expenses. Customer Accounts, and Capital Related (depreciation) expenses are also part of operating and maintenance expenses. Expenses for the Study Period have been estimated based on 2004 and 2005 recorded expenses, 2006 budgeted expenses provided by Duluth staff and discussions with Duluth staff.

Payments to the City in Lieu of Taxes

Payments to the City in Lieu of Taxes (PILOT) transfers are provided to the City of Duluth from the gas utility through a cash transfer of seven percent of gross operating revenues. In 2004, the transfer payment was \$2,957,184. In 2005, the transfer payment was \$3,150,247. As the major component of operating revenues is the commodity cost of gas, and the commodity cost of gas is forecasted to decline during the Study Period, transfers to the City are also forecasted to decline from an estimated high of \$3,865,472 in 2006.

Other Revenue and Expense

Revenues from non-utility operations include Contributed Assets, and Interest Income. Interest income is based on 5 percent of the previous year's end-of-year cash reserves. Investing Activities is an offsetting expense to Interest Income. These two items yield a net average of 0.5 percent on the previous year's end-of-year cash reserves. Cash reserves are forecasted to decrease during the Study Period, due to net losses every year. Consequently, interest income is also forecasted to decrease. Interest expense includes the interest portion of existing and planned bond payment obligations.

Capital Improvements

Planned improvements for the gas utility during the Study Period range between \$520,000 and \$820,000 per year. Capital improvements are planned to be paid from a combination of current operating revenues and issuance of bonds.

Debt Service

Duluth pays debt service on four Revenue and General Obligation Bonds, as shown in its 2004 Public Works and Utilities Annual Report. Duluth plans to issue additional debt during the Study Period. The interest portion of the current and planned debt service is shown under "Interest Expense" in Exhibit 2-A at the end of this report section. The principal portion of the current and planned debt service is shown as "Debt Service Principal" in the Cash Reserves table at the bottom of Exhibit 2-A.

Other Post Employee Benefits (OPEB)

Due to the new Governmental Accounting Standards Board (GASB) rule on employee benefits, the gas utility must collect the cost of benefits for retirees during their working years. The amount of this new financial obligation was developed by Duluth City and utility staff, based on the full amount of the financial obligation for the city, the share assigned to the utilities, and the split between the gas utility and other utilities, based on the number of full time employees of each utility. The financial obligation used in this study is a levelized annual expense. At the time of this report, the OPEB level was estimated at \$920,600 per year. This expense is shown, beginning in 2007, in Exhibit 2-A at the end of this section.

Conservation Improvement Program

Duluth has offered a successful, self-funded Conservation Improvement Program for several years. Plans for expansion of the program require additional funding, estimated at \$150,000 in 2007 and \$170,000 per year during the remainder of the Study Period.

Revenue Requirements

Each category included in the calculation of revenue requirements has been described above. The revenue requirements indicate the amount of funds on an annual basis necessary to operate the system.

Estimated Revenues - Existing Rates

Estimated operating revenues have been developed by R. W. Beck for the Study Period to compare to forecasted revenue requirements during the same period. The revenues are based on rates that took effect in November 2005. Operating revenues consist of revenues from the sale of retail gas, including Purchased Gas Adjustment (PGA) revenues, and from the sale of gas to customers under Supplemental Agreement contracts. The current method of determining the monthly PGA has been continued in the forecasted Study Period years, in order to model the revenues to be expected if existing rates were continued. This current PGA method calculates a monthly PGA to adjust for cost differences from the base rate of \$0.298 per CCF. As the cost of gas is forecasted to be higher than the current PGA base rate during 2006-2010, the monthly PGA is expected to be an additional charge to retail customers during all of the months of the Study Period. However, the PGA charge is

Section 2

expected to continually decline over the course of the Study Period, due to the forecasted decline in the cost of natural gas.

The current method of determining the contract rate for Supplemental Agreement customers has also been continued. The contract rate offered to Supplemental Agreement customers includes the wholesale cost of gas which has been estimated for each year of the Study Period, plus 3.5 percent of the gas cost to cover the cost of fuel for transportation, plus \$0.00417 per CCF to cover the commodity (variable) costs of transportation and other variable costs. A charge of \$0.025 per CCF is added for margin, then the PILOT rate of 7 percent of the total is added. This total is the basis for the contract rate offered to Supplemental Agreement customers.

Estimated Operating Results

Based on the estimates described above, we have prepared the following tables which summarize the gas utility's estimated annual operating results for the Study Period. As shown below, net income based on the gas utility's existing rates will not be sufficient to cover operating expenses. Our estimate of the gas utility's annual operating results is presented in detail in Exhibits 2-A at the end of this report section.

Estimated Annual Operating Results Existing Rates

Year	2006	2007	2008	2009	2010
Estimated Revenues	\$61,094,936	\$55,318,646	\$52,208,716	\$48,801,355	\$46,541,803
Estimated Revenue Requirements	<u>61,477,854</u>	<u>57,237,377</u>	<u>54,076,997</u>	<u>50,938,390</u>	<u>48,450,414</u>
Net Income	(\$382,918)	(\$1,918,731)	(\$1,868,281)	(\$2,137,035)	(\$1,908,611)
Net Income as Percent of Revenues	(1%)	(3%)	(4%)	(4%)	(4%)

Cash Reserves

Cash reserves for the gas utility are presented below. Reserves at existing rates are estimated to be (\$7,273,001) by the end of 2010.

Estimated Operating Results - Existing Rates

Year	Estimated Cash Reserves Existing Rates				
	2006	2007	2008	2009	2010
Beginning of Year Cash Reserves	\$2,225,978	\$1,652,545	(\$691,517)	(\$2,883,063)	(\$5,261,470)
Plus Net Income	(382,918)	(1,918,731)	(1,868,281)	(2,137,035)	(1,908,611)
Plus Depreciation	1,172,685	1,236,970	1,289,635	1,361,228	1,408,080
Less Debt Service Principal	(825,000)	(844,000)	(927,700)	(955,700)	(990,800)
Less Capital Improvements	<u>(538,200)</u>	<u>(818,300)</u>	<u>(685,200)</u>	<u>(646,900)</u>	<u>(520,200)</u>
End of Year Cash Reserves	\$1,652,545	(\$691,517)	(\$2,883,063)	(\$5,261,470)	(\$7,273,001)

City of Duluth, Minnesota
Gas Operating Results
Existing Rates

	Historical						Forecast				
	2000	2001	2002	2003	2004	2005 ⁽¹⁾	2006	2007	2008	2009	2010
Operating Revenues											
Residential Sales	\$18,333,647	\$23,341,522	\$21,620,592	\$24,506,265	\$25,805,289	\$31,467,756	\$34,936,624	\$32,494,066	\$30,754,286	\$28,856,955	\$27,402,400
Commercial & Industrial-Firm	6,118,500	9,308,144	8,663,420	9,875,136	10,609,428	13,248,819	15,055,620	14,327,727	13,597,066	12,772,318	15,051,640
Commercial & Industrial-Interrupt	6,226,377	7,482,126	6,664,486	6,939,507	7,817,118	9,725,361	10,423,115	7,728,114	7,088,414	6,402,918	3,318,383
Transport	221,984	21,496	0	0	0	0	6,976	21,139	21,350	21,563	21,779
Servicing Appliances	497,479	483,766	680,267	572,511	517,492	569,883	550,000	600,000	600,000	600,000	600,000
Reimbursement for Billing Services	228,940	0	0	0	0	0	0	0	0	0	0
Other	430,453	180,869	341,421	239,857	254,198	209,205	122,600	147,600	147,600	147,600	147,600
Total Operating Revenue	32,057,380	40,817,923	37,970,186	42,133,276	45,003,525	55,221,024	61,094,936	55,318,646	52,208,716	48,801,355	46,541,803
Operating Expenses											
Director's Office	79,828	35,475	39,924	37,295	41,116	77,872	80,208	82,614	85,093	87,646	90,275
Capital Related Expenses (Deprec)	978,603	1,128,170	951,759	1,019,732	1,130,814	1,106,595	1,172,685	1,236,970	1,289,635	1,361,228	1,408,080
Depreciation due to Change in Capital Policy			1,504,017	0	0	0	0	0	0	0	0
Utility General Expenses	1,199,084	1,318,493	1,404,882	1,511,902	1,609,752	1,621,688	1,751,423	1,891,537	2,042,860	2,206,289	2,382,792
Engineering	419,818	365,682	315,636	227,436	354,228	310,387	319,699	329,290	339,168	349,343	359,824
Utility Operations (T&D)	1,275,319	1,416,548	1,619,021	1,541,122	1,711,270	1,613,140	1,742,191	1,881,566	2,032,092	2,194,659	2,370,232
Natural Gas	24,413,472	30,159,048	26,626,924	30,201,059	33,036,487	41,735,627	48,524,375	42,317,528	39,074,759	35,648,717	32,886,170
Customer Accounts	600,797	601,520	839,120	798,849	900,151	939,206	1,014,342	1,095,490	1,183,129	1,277,779	1,380,002
Service Division	2,148,760	2,014,646	1,927,917	2,136,861	1,859,348	1,739,576	1,756,972	1,774,541	1,792,287	1,810,210	1,828,312
Servicing Appliances	601,202	587,117	553,195	487,782	603,350	522,297	532,743	543,398	554,266	565,351	576,658
Sales Promotion	243,553	214,840	209,851	224,918	223,210	206,347	210,474	214,683	218,977	223,357	227,824
Total Operating Expenses	31,960,436	37,841,539	35,992,246	38,186,956	41,469,726	49,872,735	57,105,112	51,367,618	48,612,266	45,724,578	43,510,168
Operating Income	96,944	2,976,384	1,977,940	3,946,320	3,533,799	5,348,289	3,989,823	3,951,028	3,596,450	3,076,777	3,031,635
Other Revenue											
Contributed Assets	8,676	48,735	31,673	55,566	16,826	15,613	16,000	16,000	16,000	16,000	16,000
Gain/(Loss) on Sale of Fixed Assets		21,664	6,700	(371,821)	591	(48,055)	0	0	0	0	0
Intergovernmental						11,682	0	0	0	0	0
Interest Income	472,890	231,243	271,256	46,948	143,573	301,288	111,299	82,627	0	0	0
Total Other Revenue	481,566	301,642	309,629	(269,307)	160,990	280,528	127,299	98,627	16,000	16,000	16,000
Other Expense											
Interest Expense		7,145	259,813	367,087	553,318	548,648	519,400	531,401	502,067	468,449	432,994
Amortization of Bond Discount		500	6,657	9,551							
Transfers to Other Funds											
Pymt to City in Lieu of Taxes	1,700,185	2,227,991	2,857,255	2,657,913	2,957,184	3,150,247	3,865,472	4,276,645	3,872,305	3,654,610	3,416,095
Investing Activities		119,522	193,213		90,967	254,712	100,169	74,365	0	0	0
Other Post Employee Benefits				14,500	17,624	13,805	15,000	920,600	920,600	920,600	920,600
Miscellaneous Transfers								15,375	15,759	16,153	16,557
Conservation Improvement Pgm	260,267	1,758	2,972	3,644	0	0	0	150,000	170,000	170,000	170,000
Non-Capital Improvements	1,960,452	2,356,916	3,319,910	3,052,695	3,619,093	3,967,412	4,500,041	5,968,386	5,480,731	5,229,812	4,956,246
Total Other Expense	(\$1,381,942)	\$921,110	(\$1,032,341)	\$624,318	\$75,696	\$1,661,405	(\$382,918)	(\$1,918,731)	(\$1,868,281)	(\$2,137,035)	(\$1,908,611)
Net Income/ (Loss)	-4%	2%	-3%	1%	0%	3%	-1%	-3%	-4%	-4%	-4%
Net Income Percent of Revenues											

City of Duluth, Minnesota
Gas Operating Results
Existing Rates

	Historical					Forecast					
	2000	2001	2002	2003	2004	2005 ⁽¹⁾	2006	2007	2008	2009	2010
Revenue Requirements	\$33,439,322	\$39,896,813	\$39,002,527	\$41,508,958	\$44,927,829	\$53,559,619	\$61,477,854	\$57,237,377	\$54,076,997	\$50,938,390	\$48,450,414
Cash Reserves											
Beginning of Year Cash Reserves							\$2,225,978	\$1,652,545	(\$691,517)	(\$2,883,063)	(\$5,261,470)
Net Income							(382,918)	(1,918,731)	(1,868,281)	(2,137,035)	(1,908,611)
Plus Depreciation							1,172,685	1,236,970	1,289,635	1,361,228	1,408,080
Less Debt Service Principal							(825,000)	(844,000)	(927,700)	(955,700)	(990,800)
Less Capital Improvements							(538,200)	(818,300)	(685,200)	(646,900)	(520,200)
End of Year Cash Reserves						\$2,225,978	\$1,652,545	(\$691,517)	(\$2,883,063)	(\$5,261,470)	(\$7,273,001)

⁽¹⁾ 2005 operating results are preliminary and subject to change.

COST-OF-SERVICE STUDY

Introduction

In order to compare revenues to revenue requirements by class for Duluth's gas utility, we have performed an analysis of the cost to serve each customer classification based on adjusted 2004 revenue requirements ("Test Year"). A Test Year of 2004 was chosen, as the financial records for 2005 were not finalized at the time of the rate study. In the cost-of-service study, the functionalized costs of providing service are first classified by cost component and then allocated to each class of service based upon certain specific service characteristics. The results of the study indicate the degree to which existing rates recover revenues from each customer classification on a cost of service basis and are considered in designing new rates.

The cost-of-service analyses used in this study have been based on:

- Test Year reported revenue requirements and revenues based on current rates
- total system and customer classification commodity and demand requirements
- actual and assumed customer service characteristics, and
- information obtained from customer accounts and records.

Classification of Costs

As a first step in allocating costs to individual customer classifications, we have adjusted the Test Year revenue requirements by removing all costs associated with Supplemental Agreement customers. As their contract rates are developed using wholesale gas costs and the marginal costs of providing service to these customers, it is not appropriate to analyze the costs associated with the Supplemental Agreement customers in a standard cost-of-service analysis. Supplemental Agreement contracts will be discussed further in Section 5 – Proposed Rates. Exhibit 3-A at the end of this report section shows the adjustments made to the Test Year revenue requirements to remove the Supplemental Agreement-related costs.

The gas utility's adjusted Test Year revenue requirements were then classified to five specific cost components. These components and the type of costs assigned to each are described below.

Demand Component - Those costs incurred to provide a gas system capable of meeting the total combined demands of customers. Demand costs include the capacity portion of purchased gas costs, operating and maintenance expenses, capital expenditures and other costs which are generally fixed and do not vary materially with the amount of gas consumed or which cannot be designated specifically as a customer or commodity cost.

Section 3

Commodity Component - Those costs that vary substantially or directly with the amount of gas purchased or sold or which can be attributed to gas purchase volumes.

Customer Service Component - Those costs directly related to the number and type of customers, such as customer service, customer accounting, billing and collection.

Customer Facilities Component - Those costs directly related to the number and type of customer facilities, such as the costs of meters and services and other necessary equipment.

Revenue Component – Other operating revenues, other income and expenses and payments in lieu of taxes (PILOT) are all revenue related. These revenues and expenses will be divided between customer rate classes based on each class' percentage of total revenue requirements.

The table below summarizes the classification of adjusted Test Year revenue requirements of the gas utility. Exhibit 3-A at the end of this section shows the detailed classification of revenue requirements. Exhibit 3-B details the classification of gas plant-in-service.

Classification Of Gas Utility Costs 2004 Test Year

Cost Component	Adjusted Revenue Requirements
Demand	\$6,569,095
Commodity	25,189,952
Customer Service	1,097,210
Customer Facilities	3,509,485
<u>Revenue</u>	<u>2,587,233</u>
Total	\$38,952,975

Allocation To Customer Classifications

Based upon actual and assumed customer service characteristics, we have developed various factors for use in allocating the gas utility's adjusted Test Year revenue requirements to individual customer classifications. These allocation factors reflect accepted ratemaking principles and are based upon fully-distributed, embedded cost allocation procedures. The following summary describes the specific allocation factors used in our cost-of-service analysis. Exhibit 3-C at the end of this report section shows the development of each of these factors.

Demand Allocations

To allocate demand related revenue requirements to individual customer classifications, we have used two different demand allocation methods. These methods are the peak responsibility method and the average/excess method. Under the peak responsibility method, demand costs are allocated to the customer classifications in proportion to their respective contributions to the gas utility's peak demand. The

peak responsibility method is used to allocate demand related purchased gas costs. It is based on class consumption during the peak month of the Test Year, February 2004.

The average/excess method is used to allocate the remainder of the system demand related costs. It is a two part formula. One part of the formula determines each class' share of the average use of the system, based on each class' annual consumption. The second part of the formula recognizes each class' share of the costs above the average use of the system (excess). This is done by determining the excess demand of each class on the system above their average demand. This part of the formula takes into account the class load factor. This demand cost allocation method recognizes both the average gas requirements, as well as the peak loads of each customer classification. Exhibit 3-D shows the development of this allocation factor in detail.

We have used the peak month data for February 2004 as a measure of peak period requirements, as Duluth does not have sufficient data available to determine actual peak day usage by individual customer rate classes.

Commodity Allocations

Commodity related costs have been allocated to each class of service based on recorded gas sales for the 2004 Test Year.

Customer Service Allocations

Customer Service related costs have been allocated among the customer classifications based on the Customer Service allocation factor. This factor allocates customer related costs such as customer billing, customer service and meter reading in proportion to each classification's weighted number of customers. Such weighting factors are developed to represent the difference in service configurations between customer classifications.

Customer Facilities Allocations

Customer Facilities related costs have been allocated among the customer classifications based on the Customer Facilities allocation factor. This factor allocates customer facilities related costs in proportion to each classification's weighted number of customers. The weighting factor represents the difference in the cost of equipment used by different classifications, as well as each class' proportional use of the system facilities.

Revenue Allocations

Costs classified to the revenue component have been allocated to each customer classification based on total allocated revenue requirements before revenue-related costs. For purposes of this calculation, allocated revenue requirements are assumed to represent the proportionate share of revenues which will be recovered from each class of service in the future.

Cost-of-Service Study Results

Based upon the cost classifications and allocation methods described above, we have estimated the cost to serve each customer classification during the Test Year. The results of this study are presented in detail in Exhibit 3-E at the end of this report section. The table below compares our findings from Exhibit 3-E with the revenues from each customer classification during the Test Year.

**Gas Utility
Comparison Of Revenues And
Allocated Cost-Of-Service
2004 Test Year**

Customer Classification	Total Allocated Costs	Total Revenues
Residential Firm Small Volume	\$24,509,272	\$24,854,636
Residential Firm Large Volume	429,061	408,138
Coml / Industrial Firm Small Volume	10,640,249	10,036,826
Coml / Industrial Firm Large Volume	579,762	503,877
Coml / Industrial Interruptible Small Volume	1,957,554	1,753,189
Coml / Industrial Interruptible Large Volume	<u>837,077</u>	<u>760,479</u>
Total	\$38,952,975	\$38,317,145

For purposes of determining the extent to which existing rates match recovery of costs for each class, we have made a comparison of Test Year revenues based on current rates and the allocated cost-of-service for each customer classification. The results of this comparison are shown in the following table on a percentage basis. Also shown in the table are the approximate percentage increase (decrease) in each customer classification's rates necessary to produce revenues from each classification which are in accordance with the corresponding percentage of total cost of service.

Gas Utility
Percentage Comparison Of Revenues And
Allocated Cost-Of-Service
2004 Test Year

Customer Classification	Percentage Allocated Costs	Percentage Revenues	Increase/ (Decrease) ⁽¹⁾
Residential Firm Small Volume	63%	65%	(3%)
Residential Firm Large Volume	1.10%	1.07%	3.4%
Coml / Industrial Firm Small Volume	27%	26%	4.3%
Coml / Industrial Firm Large Volume	1.5%	1.3%	13.2%
Coml / Industrial Interruptible Small Volume	5%	4.6%	9.8%
Coml / Industrial Interruptible Large Volume	2.1%	2%	8.3%
Total	100%	100%	0%

(1) Adjustment represents percent increase needed to match revenues to revenue requirements by class and does not represent a proposed rate increase or decrease.

The table above indicates that Duluth's gas utility existing rates are not totally in line with the cost to serve each customer class. Cost based rates are one of several goals in establishing rates. The relationship between allocated costs and revenues for each class should be considered, in addition to other rate related goals, in developing recommended rates.

City of Duluth, Minnesota
 Classification of Gas Revenue Requirements
 2004 Test Year

	Initial Total	Adjusted Total (1)	Demand	Commodity	Cust Serv	Cust Facil	Revenue Basis for Classification
Operating Expenses							
Director's Office	\$41,116	\$39,883	\$15,763		\$5,348	\$15,900	\$2,872 (2)
Capital Related Expenses (Deprec)	1,116,850	\$1,083,345	508,723			574,621	Gas Plant in Service
Utility General Expenses	1,609,752	1,561,459	733,239			828,220	Gas Plant in Service
Engineering	354,228	343,601	343,601				100% Demand
Utility Operations (T&D)	1,711,270	1,659,932	779,481			880,451	Gas Plant in Service
Natural Gas - General Retail	33,036,487	28,303,317	3,113,365	25,189,952			Per Wholesale Gas Bills
Customer Accounts	900,151	873,146			873,146		100% Customer Service
Service Division	1,859,348	1,803,568	846,930			956,638	Gas Plant in Service
Servicing Appliances	603,350	585,250					100% Revenues
Sales Promotion	223,210	216,514			216,514		100% Customer Service
Total Operating Expenses	41,455,762	36,470,014	6,341,102	25,189,952	1,095,008	3,255,831	585,250 588,122
Other Revenue							
Contributed Assets	16,826	16,321					16,321
Gain/(Loss) on Sale of Fixed Assets	591	573	269			304	100% Revenue
Interest Income	143,573	139,266	65,397			73,869	Gas Plant in Service
Total Other Revenue	160,990	156,160	65,666			74,173	Gas Plant in Service
Other Expense							
Interest Expense	553,318	536,718	252,035			284,683	Gas Plant in Service
Amortization of Bond Discount	13,964	13,545	6,361			7,185	Gas Plant in Service
Transfers to Other Funds							
Pymt to City in Lieu of Taxes	2,957,184	2,658,639					2,658,639
Investing Activities	90,967	88,238					88,238
Miscellaneous Transfers	17,624	17,095					17,095
Non-Capital Improvements	0	0					100% Revenue
Total Other Expense	3,633,057	3,314,236	258,396			291,868	2,763,972
Less Rev from Servicing Appliances	(517,492)	(501,967)					(501,967)
Less Other Operating Revenues	(254,198)	(246,572)					(246,572)
Plus Margin	75,696	73,425	35,263		2,203	35,959	(3)
Revenue Requirements	\$44,231,835	\$38,952,975	\$6,569,095	\$25,189,952	\$1,097,210	\$3,509,485	\$2,587,233

(1) Adjustments made to remove Supplemental Agreement costs. Direct costs for gas purchases and transfers to the City removed.

(2) Three percent (3%) of other costs removed, representing the share of other costs paid by Supplemental Agreement customers.

(3) Based on other Operating Expenses, excluding purchased gas.

(3) Source is: City of Duluth 2004 Annual Report. Allocated based on subtitled demand, commodity and customer related revenue requirements, excluding purchased gas.

Exhibit 3-B

City of Duluth, Minnesota
 Classification of Gas Plant In Service
 2004 Test Year

Description	Gross Plant	Accumulated		System Net		Cust Facilities Basis of Classification	
		Depreciation	Plant-in-Service	Plant-in-Service	Demand	Demand	Cust Facilities
Land	\$426,541	\$0	\$426,541	\$426,541	\$426,541		100% Demand
Meter & Services	11,039,650	6,035,925	5,003,725	5,003,725		5,003,725	100% Cust Facilities
Mains & Appurtenances	28,857,211	4,959,264	23,897,947	23,897,947	11,948,974	11,948,974	50% Dmd/ 50% Cust
Buildings	3,107,559	540,585	2,566,974	2,566,974	2,566,974		100% Demand
Equipment	<u>3,258,913</u>	<u>2,106,828</u>	<u>1,152,085</u>	<u>1,152,085</u>	<u>576,043</u>	<u>576,043</u>	50% Dmd/ 50% Cust
Total	\$46,689,874	\$13,642,602	\$33,047,272	\$33,047,272	\$15,518,531	\$17,528,741	
Percent					47%	53%	

City of Duluth, Minnesota
 Gas Demand, Commodity and Customer Allocation Factors
 2004 Test Year

	Res Firm Sm Vol	Res Firm Lge Vol	Com/Ind Firm Sm Vol	Com/Ind Firm Lge Vol	Com/Ind Firm Sm Vol	Com/Ind Firm Lge Vol	Com/Ind Interr Sm Vol	Com/Ind Interr Lge Vol
Total	10	15	20	30	40	50		
Demand Allocation Factor								
Peak Period Sales (CCF) -Feb 2004	4,740,766	66,379	1,861,864	98,747	0	0	0	0%
Allocation Factor - Dem 1	70%	1%	28%	1%	0%	0%	0%	0%
Average/Excess Demand (CCF) (1)	4,329,904	75,242	1,996,823	144,818	363,330	239,221	5%	3%
Allocation Factor - Dem-2	61%	1%	28%	2%	5%	3%		
Commodity Allocation Factor								
Annual Sales w/o Suppl Agree (CCF)	25,639,095	497,509	11,692,457	630,007	2,412,304	1,069,521	6%	3%
Allocation Factor - Comm-1	61%	1%	28%	2%	6%	3%		
Customer Service Allocation Factor								
Average Number of customers	22,892	10	1,820	3	64	6		
Service Weighting Factor	1	5	2	10	8	15		
Weighted Number of Customers	22,892	50	3,640	30	512	90		
Allocation Factor - CustServ	84%	0.2%	13%	0.1%	2%	0.3%		
Customer Facilities Allocation Factor								
Average Number of Customers	22,892	10	1,820	3	64	6		
Facilities Weighting Factor	1	30	5	150	25	15		
Weighted Number of Customers	22,892	300	9,100	450	1,600	90		
Allocation Factor - CustFacil	66%	0.9%	26%	1.3%	5%	0.3%		

(1) See Exhibit 3-D for development of this allocation factor.

City of Duluth, Minnesota
 Gas Demand Cost Allocation by Average-Excess Demand
 2004 Test Year

Class of Service	Annual Use (MCF) (1)	Sys Peak Month (MCF) (2)	Class Max Demand Month (NCP) (3)	Class Avg Demand per Month (MCF) (4)	Process Dmd Alloc Basis (MCF/month) (5)	System Excess Demand (MCF) (6)	System Excess Demand (MCF/month) (7)	Avg & Excess Demand (MCF) (8)	Percent Avg & Excess Demand (9)
Residential Firm-Small Vol	25,639,095	N/A	4,740,766	2,136,591	2,604,175	N/A	2,193,313	4,329,904	61%
Residential Firm-Lge Vol	497,509	N/A	81,570	41,459	40,111	N/A	33,783	75,242	1%
Coml/Ind Firm-Small Vol	11,692,457	N/A	2,188,353	974,371	1,213,982	N/A	1,022,451	1,996,823	28%
Coml/Ind Firm-Large Vol	630,007	N/A	162,111	52,501	109,610	N/A	92,317	144,818	2%
Coml/Ind Interrupt-Small Vol	2,412,304	N/A	393,734	201,025	192,709	N/A	162,305	363,330	5%
Coml/Ind Interrupt-Large Vol	1,069,521	N/A	267,337	89,127	178,210	N/A	150,094	239,221	3.3%
Total	41,940,893	7,149,337	7,833,871	3,495,074	4,338,797	3,654,263	3,654,263	7,149,337	100%

- (1) Total annual consumption by class.
- (2) System peak month consumption (February 2004).
- (3) Non-coincident peak (NCP) demands, which are the individual class maximum monthly demands, whenever they occur during the year.
- (4) Total annual consumption by class, divided by 12 months.
- (5) Class maximum demand (col 3), less class average demand (col 4).
- (6) System peak month demand (col 2) less the total system average demand (col 4).
- (7) Ratio of each line to the total for the Process Demand Alloc Basis (col 5), times the System Excess Demand (col 6)
- (8) Sum of columns 4 and 7.
- (9) Ratio of each line to the total for column 8.

City of Duluth Minnesota
Allocation of Adjusted Gas Revenue Requirements
2004 Test Year

	Total	Res Firm Sm Vol 10	Res Firm Lge Vol 15	Com/Ind Firm Sm Vol 20	Com/Ind Firm Lge Vol 30	Com/Ind Interr Sm Vol 40	Com/Ind Interr Lge Vol 50	Allocation
Demand Component								
Director's Office	\$15,763	\$9,547	\$166	\$4,403	\$319	\$801	\$527	Dem-2
Capital Related Expenses	508,723	308,102	5,354	142,087	10,305	25,853	17,022	Dem-2
Utility General Expenses	733,239	444,077	7,717	204,795	14,853	37,263	24,535	Dem-2
Engineering	343,601	208,098	3,616	95,968	6,960	17,462	11,497	Dem-2
Utility Operations (T&D)	779,481	472,082	8,203	217,710	15,789	39,613	26,082	Dem-2
Natural Gas - Retail General Service Division	3,113,365	2,180,890	30,536	856,512	45,426	0	0	Dem-1
Other Revenue	846,930	512,932	8,913	236,549	17,155	43,041	28,339	Dem-2
Other Expense	(65,666)	(39,770)	(691)	(18,341)	(1,330)	(3,337)	(2,197)	Dem-2
Other Expense	258,396	156,494	2,719	72,170	5,234	13,132	8,646	Dem-2
Margin	<u>35,263</u>	<u>21,357</u>	<u>371</u>	<u>9,849</u>	<u>714</u>	<u>1,792</u>	<u>1,180</u>	Dem-2
Demand Total	6,569,095	4,273,809	66,905	1,821,703	115,426	175,621	115,631	
Commodity Component								
Natural Gas - Retail General	<u>25,189,952</u>	<u>15,398,994</u>	<u>298,807</u>	<u>7,022,560</u>	<u>378,386</u>	<u>1,448,844</u>	<u>642,361</u>	Comm-1
Commodity Total	25,189,952	15,398,994	298,807	7,022,560	378,386	1,448,844	642,361	
Customer Services Component								
Director's Office	5,348	4,498	10	715	6	101	18	CustServ
Customer Accounts	873,146	734,477	1,604	116,787	963	16,427	2,888	CustServ
Sales Promotion	216,514	182,128	398	28,960	239	4,073	716	CustServ
Margin	<u>2,203</u>	<u>1,853</u>	<u>4</u>	<u>295</u>	<u>2</u>	<u>41</u>	<u>7</u>	CustServ
Customer Service Total	1,097,210	922,957	2,016	146,757	1,210	20,643	3,629	
Customer Facilities Component								
Director's Office	15,900	10,571	139	4,202	208	739	42	CustFacil
Capital Related Expenses (Deprec)	574,621	382,035	5,007	151,866	7,510	26,702	1,502	CustFacil
Utility General Expenses	828,220	550,639	7,216	218,890	10,824	38,486	2,165	CustFacil
Utility Operations (T&D)	880,451	585,365	7,671	232,694	11,507	40,913	2,301	CustFacil
Service Division	956,638	636,017	8,335	252,829	12,503	44,453	2,501	CustFacil
Other Revenue	(74,173)	(49,313)	(646)	(19,603)	(969)	(3,447)	(194)	CustFacil
Other Expense	291,868	194,047	2,543	77,137	3,814	13,563	763	CustFacil
Margin	<u>35,959</u>	<u>23,907</u>	<u>313</u>	<u>9,504</u>	<u>470</u>	<u>1,671</u>	<u>94</u>	CustFacil
Customer Facilities Total	3,509,485	2,333,269	30,578	927,518	45,866	163,080	9,173	
Revenue Component								
Director's Office	2,872	1,811	31	783	43	143	61	(1)
Servicing Appliances	585,250	369,007	6,410	159,623	8,705	29,100	12,405	(1)
Other Revenue	(16,321)	(10,291)	(179)	(4,452)	(243)	(812)	(346)	(1)
Other Expense	105,333	66,414	1,154	28,729	1,567	5,237	2,233	(1)
Pymt to City in Lieu of Taxes	2,658,639	1,625,266	31,537	741,186	39,936	152,916	67,797	Comm-1
Less Rev fr Servicing Appliances	(501,967)	(316,496)	(5,498)	(136,909)	(7,466)	(24,959)	(10,639)	(1)
Less Other Operating Revenues	<u>(246,572)</u>	<u>(155,467)</u>	<u>(2,701)</u>	<u>(67,251)</u>	<u>(3,667)</u>	<u>(12,260)</u>	<u>(5,226)</u>	(1)
Revenue Total	2,587,233	1,580,244	30,755	721,711	38,874	149,366	66,284	
Revenue Requirements	\$38,952,975	\$24,509,272	\$429,061	\$10,640,249	\$579,762	\$1,957,554	\$837,077	
Total Revenues	\$38,317,145	\$24,854,636	\$408,138	\$10,036,826	\$503,877	\$1,753,189	\$760,479	
Percent Revenue Requirements	100%	63%	1%	27%	1.5%	5.0%	2.1%	
Percent Revenues	100%	65%	1%	26%	1.3%	4.6%	2.0%	
Percent Change	0%	-3.0%	3.4%	4.3%	13.2%	9.8%	8.3%	

(1) Based on Demand, Commodity, Customer Services and Customer Facilities expenses.

UNBUNDLED RATES

Based on the results of the cost of service study presented in Section 3 of this report, unbundled rates have been developed. The unbundled gas rates have been designed to collect the same total adjusted revenue requirements as Duluth's Test Year revenue requirements, including the Purchased Gas Adjustment revenues collected in the 2004 Test Year.

Gas Rate Components

Duluth's gas rates have been unbundled into four components: purchased gas, distribution, customer and Payments in Lieu of Taxes (PILOT). Each of these components is described below.

Purchased Gas

The purchased gas component represents the cost of wholesale gas delivered to Duluth. It is expressed as both a demand and commodity component based on consumption.

Distribution

The distribution portion of the unbundled rate represents O&M expenses on the distribution system, depreciation, certain A&G expenses and a credit for non-operating income. It is expressed as a demand component based on consumption.

Customer

The customer charge reflects both customer service and customer facilities expenses, including utility general, utility operations and service division expenses, depreciation on the customer portion of the system and a credit for other revenue. The customer charge is a monthly per customer charge.

Payments In Lieu Of Taxes (PILOT)

The gas utility contributes cash to the City of Duluth, through payments in lieu of taxes. The cost of this contribution is expressed as a consumption charge.

Unbundled Gas Rates

Unbundled natural gas costs and resulting retail rates for the Residential Firm Small Volume, Residential Firm Large Volume, Commercial/ Industrial Firm Small Volume, Commercial/ Industrial Firm Large Volume, Commercial/ Industrial Interruptible Small Volume and Commercial/ Industrial Interruptible Large Volume rate classes are

Section 4

shown in the tables below. Unbundled costs associated with Supplemental Agreement customers have not been shown, due to the fact that they have contract rates. The individual unbundled components have been summed to show a total unbundled rate. Note that the following rates are not necessarily the proposed rates recommended by R. W. Beck as a result of this study. The following unbundled rates:

- Generate revenue equal to the 2004 adjusted Test Year revenue requirements.
- Reflect the results of the cost-of-service analysis. The cost to serve each customer class is different. The cost depends on the amount and timing of natural gas use and the cost of customer facilities and services.
- Reflect the results of the unbundling of gas utility services.

Unbundled Gas Costs

Unbundled Rate	Rate Component	Rate Class						
		Total	Res Firm Sm Vol	Res Firm Lg Vol	C/I Firm Sm Vol	C/I Firm Lg Vol	C/I Interr Sm Vol	C/I Interr Lg Vol
Purchase	Demand	\$3,113,365	\$2,180,890	\$30,536	\$856,512	\$45,426	\$0	\$0
	Commodity	25,189,952	15,398,994	298,807	7,022,560	378,386	1,448,844	642,361
Distribution	Demand	3,424,752	2,075,303	35,957	955,975	69,365	173,885	114,268
Customer	Customer	4,566,267	3,228,819	32,224	1,064,017	46,649	181,908	12,651
PILOT	Commodity	<u>2,658,639</u>	<u>1,625,266</u>	<u>31,537</u>	<u>741,186</u>	<u>39,936</u>	<u>152,916</u>	<u>67,797</u>
Total		\$38,952,975	\$24,509,272	\$429,061	\$10,640,249	\$579,762	\$1,957,554	\$837,077

Unbundled Rates

Unbundled Gas Rates

Unbundled Rate	Rate Component	Rate Class					
		Res Firm Sm Vol	Res Firm Lg Vol	C/I Firm Sm Vol	C/I Firm Lg Vol	C/I Interr Sm Vol	C/I Interr Lg Vol
Purchase	Demand (\$/CCF)	\$0.0851	\$0.0614	\$0.0733	\$0.0721	\$0.0000	\$0.0000
	Commodity (\$/CCF)	0.6006	0.6006	0.6006	0.6006	0.6006	0.6006
Distribution	Demand (\$/CCF)	0.0809	0.0723	0.0818	0.1101	0.0721	0.1068
Customer	Customer (\$/mo)	11.75	268.53	48.72	1,295.80	236.86	175.71
PILOT	Commodity (\$/CCF)	0.0634	0.0634	0.0634	0.0634	0.0634	0.0634
Total	Customer (\$/mo)	\$11.75	\$268.53	\$48.72	\$1,295.80	\$236.86	\$175.71
	Commodity (\$/CCF)	\$0.8300	\$0.7976	\$0.8190	\$0.8462	\$0.7361	\$0.7708

Existing Rates as of November 2005

	Rate Component	Rate Class					
		Res Firm Sm Vol	Res Firm Lg Vol	C/I Firm Sm Vol	C/I Firm Lg Vol	C/I Interr Sm Vol	C/I Interr Lg Vol
Total	Customer (\$/mo)	\$6.00	\$200.00	\$25.00	\$250.00	\$100.00	\$275.00
	Commodity (\$/CCF)	\$0.5480	\$0.4100	\$0.4530	\$0.3950	\$0.3300	\$0.3040

PROPOSED RATES

Retail rate adjustments are generally made in response to revenue requirements and cost-of-service. In Section 2 of this report, the gas utility's estimated annual operating results for the Study Period were presented. These operating results were developed utilizing Duluth's existing rates. Section 3 of this report summarizes the results of the cost of service analysis for the gas utility. Section 4 presents an analysis of unbundled gas rates. All of these factors have been considered in the development of the proposed gas rates included in this section of the Report.

Rate Design

As stated in Section 2, forecasted revenues at existing rates are expected to be insufficient to adequately cover forecasted revenue requirements during the Study Period. The expected decrease in the cost of gas during the next few years will not change the forecast of Duluth's operating results, because Duluth's Purchased Gas Adjustment rate already adjusts each month for changes in the price of wholesale gas. However, increases over time in the costs to operate and maintain a gas utility must be addressed through a cost-of-service study, unbundled rate analysis and design of new rates.

Duluth's costs have increased since its last rate study and new expense categories have been added in 2007, in the form of the Other Post Employee Benefits (OPEB) expense and the expansion of the Conservation Improvement Program. The Net Income line showing at the bottom of Duluth's Operating Results at Existing Rates in Exhibit 2-A shows a loss forecasted for every year of the 2006-2010 Study Period. Duluth also had a net loss during 2000 and 2002. Net Income is the measure of the margin (or "profit") that Duluth makes on its gas utility services. The margin on each individual rate class is measured by the difference between the cost to serve the class and the revenues from the class. Our cost-of-service analysis has shown that the Residential Small Volume class is the only class earning a margin. All of the other classes cost more to serve than the revenues from the class. Duluth is estimated to be making no margin during the Study Period, if its existing rates are not changed.

New rates have been designed to be implemented in November 2006 that increase sales revenues overall by approximately 5.7 percent. The cost-of-service analysis showed that the Residential Small Volume class is paying more than the cost to serve this class. All other classes are paying less than the cost to serve them. Consequently, a lower rate increase is proposed for the Residential Small Volume class than for the other classes. Although all of the classes other than the Residential Small Volume class received the same level of rate increase, the increases to monthly charges and commodity rates were based in part on the results of the unbundled analysis.

The overall revenue increase of 5.7 percent is sufficient to meet Duluth's goal of \$2 million in cash reserves, plus sufficient reserves for the following year's debt service

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payments. This total cash reserves need is estimated at \$4 million. The \$4 million goal is forecasted to be met by the end of the Study Period in 2010.

The Purchased Gas Adjustment (PGA) base rate utilized in the PGA calculation no longer reflects the average cost of purchased gas. It has been increased from \$0.298 per CCF to \$0.920 per CCF. The retail gas rates have been adjusted to include this higher base rate.

R. W. Beck has designed new rates for Duluth to consider for implementation in November 2006. All of these rates are based on the new PGA base rate that better reflects the expected cost of wholesale gas purchases during the Study Period.

Proposed Rates

1. The Residential Small Volume rate was increased by 4.7 percent. Both the customer charge and the commodity rate were increased. The commodity rate was also adjusted to include the higher PGA base rate.
2. The Residential Large Volume rate was increased by 7.2 percent. The customer charge was kept the same. The commodity rate was increased. The commodity rate was also adjusted to include the higher PGA base rate.
3. The Commercial/ Industrial Firm Small Volume rate was increased by 7.2 percent. Both the customer charge and the commodity rate were increased. The commodity rate was also adjusted to include the higher PGA base rate.
4. The Commercial/ Industrial Firm Large Volume rate was increased by 7.2 percent. The customer charge was reduced. The commodity rate was increased. The commodity rate was also adjusted to include the higher PGA base rate.
5. The Commercial/ Industrial Interruptible Small Volume rate was increased by 7.2 percent. Both the customer charge and the commodity rate were increased. The commodity rate was also adjusted to include the higher PGA base rate. It is recommended that this rate be closed to new customers immediately. It is further recommended that all customers currently on this rate be notified immediately that they will be moved from this rate to the Commercial/ Industrial Firm Small Volume rate in January 2010. This recommendation will be further discussed under "Interruptible Full Service Rates" later in this section of the Report.
6. The Commercial/ Industrial Interruptible Large Volume rate was increased by 7.2 percent. Both the customer charge and the commodity rate were increased. The commodity rate was also adjusted to include the higher PGA base rate.
7. The Commercial/ Industrial Firm Transportation Small Volume rate was adjusted, using the results of the unbundled cost analysis and the results of the rate increases on full service customers. The customer charge was reduced to be the same as the Commercial/ Industrial Firm Small Volume rate and the commodity rate was increased. There are no customers currently on this rate. The percent rate change for each customer will differ, depending on the amount of gas consumed, which is a variable cost, compared with the fixed monthly charge.

8. The Commercial/ Industrial Firm Transportation Large Volume rate was adjusted, using the results of the unbundled cost analysis and the results of the rate increases on full service customers. The customer charge was reduced to be the same as the Commercial/ Industrial Firm Large Volume rate and the commodity rate was increased. There are no customers currently on this rate. The percent rate change for each customer will differ, depending on the amount of gas consumed, which is a variable cost, compared with the fixed monthly charge.
9. The Commercial/ Industrial Interruptible Transportation Small Volume rate was adjusted, using the results of the unbundled cost analysis and the results of the rate increases on full service customers. Both the customer charge and the commodity rate were increased. There are no customers currently on this rate. The percent rate change for each customer will differ, depending on the amount of gas consumed, which is a variable cost, compared with the fixed monthly charge.
10. The Commercial/ Industrial Interruptible Transportation Large Volume rate was adjusted, using the results of the unbundled cost analysis and the results of the rate increases on full service customers. Both the customer charge and the commodity rate were increased. There are no customers currently on this rate. The percent rate change for each customer will differ, depending on the amount of gas consumed, which is a variable cost, compared with the fixed monthly charge.
11. Supplemental Agreement Contracts currently are based on the commodity cost of gas, plus 3.5 percent of this commodity cost to cover fuel charges and \$0.00417 per CCF to cover commodity related wholesale transportation charges. Supplemental Agreement customers do not contribute to the costs of Duluth's local gas distribution system. They pay only the added capacity costs due to their gas purchases. They also pay the appropriate monthly customer charge and \$0.025 per CCF to contribute to the utility's margin. An adder of 7 percent of the total of these charges is added to each bill to cover PILOT. It is proposed that a charge of \$0.058 per CCF be included in Supplemental Agreement contract rates to contribute to local distribution costs. This proposed rate is discussed further under "Supplemental Agreement Contracts" later in this section of the Report.

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**City of Duluth
Current And Proposed Retail Gas Rates**

Class	Rate Component	Current Rate	Proposed Rate
Residential	Monthly Charge	\$6.00	\$7.50
Small Volume (10)	Per CCF	0.548	1.241
	Estimated PGA per CCF	0.650	0
	Total CCF Rate	1.198	1.241
Residential	Monthly Charge	200.00	200.00
Large Volume (15)	Per CCF	0.410	1.140
	Estimated PGA per CCF	0.650	0
	Total CCF Rate	1.050	1.140
Coml/ Ind Firm	Monthly Charge	25.00	40.00
Small Volume (20)	Per CCF	0.453	1.157
	Estimated PGA per CCF	0.650	0
	Total CCF Rate	1.093	1.157
Coml/ Ind Firm	Monthly Charge	250.00	200.00
Large Volume (30)	Per CCF	0.395	1.127
	Estimated PGA per CCF	0.650	0
	Total CCF Rate	1.035	1.127
Coml/ Ind Interrupt	Monthly Charge	100.00	175.00
Small Volume (40)	Per CCF	0.330	1.035
	Estimated PGA per CCF	0.650	0
	Total CCF Rate	0.970	1.035
Coml/ Ind Interrupt	Monthly Charge	275.00	450.00
Large Volume (50)	Per CCF	0.304	1.005
	Estimated PGA per CCF	0.650	0
	Total CCF Rate	0.944	1.005
Coml/ Ind Firm	Monthly Charge	50.00	40.00
Transport Sm Vol (60)	Per CCF	0.095	0.100
	Estimated PGA per CCF	Not Applicable	Not Applicable
	Total CCF Rate		
Coml/ Ind Firm	Monthly Charge	275.00	200.00
Transport Lg Vol (70)	Per CCF	0.057	0.080
	Estimated PGA per CCF	Not Applicable	Not Applicable
	Total CCF Rate		
Coml/ Ind Interr	Monthly Charge	125.00	175.00
Transport Sm Vol (80)	Per CCF	0.060	0.070
	Estimated PGA per CCF	Not Applicable	Not Applicable
	Total CCF Rate		
Coml/ Ind Interr	Monthly Charge	300.00	450.00
Transport Lg Vol (90)	Per CCF	0.046	0.050
	Estimated PGA per CCF	Not Applicable	Not Applicable
	Total CCF Rate		

Purchased Gas Adjustment

Duluth uses a Purchased Gas Adjustment rate (PGA), in order to adjust on a monthly basis for the variation in the cost of purchased gas. Duluth's purchased gas base rate is currently \$0.298 per CCF. This is the cost of gas that is included in the current retail gas rates. When gas costs more than \$0.298 per CCF, Duluth charges this additional amount as a PGA charge on its firm and interruptible customers' monthly bills.

The current PGA monthly calculation adjusts for the gas cost of sales to Supplemental Agreement customers. Supplemental Agreement customers do not pay a monthly PGA rate, as they have contract rates that reflect the actual commodity cost of gas. Each month, the amount of CCF sales to Supplemental Agreement customers is subtracted from total purchases and the cost of these gas sales is subtracted from the monthly gas costs. The cost of gas remaining is used as the basis for calculating the monthly PGA for the regular firm and interruptible customers.

Although the overall method of determining the monthly PGA works well, there are several changes that should be made to the calculation method to up-date it and allow it to more accurately reflect the monthly cost of gas.

Purchased Gas Adjustment Recommendations

1. Change the base rate to \$0.9200 per CCF to reflect the current average commodity and capacity cost of gas and to adjust for the change in the PGA base rate used in the proposed rates included in this Report.
2. Subtract only the gas related costs associated with gas sales to Supplemental Agreement customers. Specifically, these costs should include the commodity cost of gas and the two forms of variable capacity costs now charged to the Supplemental Agreement customers, which are the fuel costs and the commodity based transportation costs. The 7 percent adder on the commodity and capacity costs of gas to cover PILOT should not be included, as this 7 percent adder is not a gas cost, but is a payment to the City.
3. Eliminate the fixed \$0.12 per CCF to cover capacity costs. Include the actual capacity costs for the month in the calculation of the PGA. Average capacity costs are included in the new proposed base rate of \$0.9200 per CCF. Including actual monthly capacity costs will allow the PGA to adjust for variations in capacity costs, as well as in commodity costs.
4. The net commodity and capacity cost of gas, after adjustments, should be divided by gas sales, not gas purchases. PGA credits or charges can only be collected on the units of gas that are sold. Therefore, the monthly PGA should be calculated based on gas sales.
5. Add 7 percent to the PGA rate calculated for the month, to cover the 7 percent PILOT that must be paid on all revenues. Charge or credit the customers' monthly bills by this adjusted PGA rate.
6. Perform a true-up calculation each month, whereby the amount of gas costs calculated for collection or credit through the PGA on the monthly bills is

compared the following month with the amount actually collected. Add or subtract the difference, as appropriate, to the next monthly PGA calculation.

Supplemental Agreement Contracts

Proposed Rate Change

Duluth has offered contracts for many years to customers who have the potential to use fuels other than gas for their needs. These contracts are offered in order to facilitate customer retention and thereby provide revenue to the utility and to the City that would otherwise be lost. Duluth offers customers on these contract rates the lowest cost gas available and charges only the added wholesale capacity cost of these purchases. Supplemental Agreement customers also pay the appropriate monthly customer charge and \$0.025 per CCF toward the utility's margin, plus 7 percent of these total charges to cover PILOT. Although Supplemental Agreement customers use the facilities and services of Duluth's local gas distribution system, they contribute only \$0.025 per CCF towards these costs under current contracts. In keeping with the 7.2 rate increase proposed for all rate classes other than Residential Small Volume, a new charge of \$0.058 per CCF is proposed for Supplemental Agreement customers. This charge represents a 7.2 percent rate increase to this group of customers. Supplemental Agreement customers will continue to benefit from lower monthly bills than regular customers, but will share in the contribution toward Duluth's increasing revenue requirements.

Contract Term Recommendation

Supplemental Agreements contracts are currently offered only for one-two month time periods. It is recommended that Supplemental Agreement contracts be offered for longer terms of one year or longer. As the purpose of these Supplemental Agreement contracts is customer retention, there is no value in offering these customers low cost gas for only one-two months at a time. Duluth will benefit from longer term contracts that guarantee revenue to cover its locked-in gas purchases and Supplemental customers will continue to benefit from lower than tariff retail gas rates.

Transportation Services

Duluth has four transportation rates, for small and large volume firm service and small and large volume interruptible service. These rates are offered in order to provide service to and earn revenue from customers who would otherwise leave the Duluth gas system altogether. The utility benefits by earning a margin on its customer facilities and services and its local distribution system. The City benefits by earning the 7 percent PILOT on this transportation revenue. It is recommended that Duluth continue to offer transportation services to customers who would otherwise leave its gas system. Rates proposed for the four transportation rates are revenue neutral to the utility. Revenue neutral means that it does not matter to the utility whether a customer purchases both gas and transportation services or merely transportation services from the utility. The margin earned by the utility is based on its customer facilities and services and its local distribution system, not on the cost of wholesale gas. The

proposed transportation rates were based on the results of the unbundled rate analysis and the increased revenue requirements of the utility. Customer charges for each of the transportation rates were set equal to comparable full service customers based on firm or interruptible service and small or large volume. The transportation charge was based on the costs of the local distribution system. No customers are currently on any of the transportation rates, although a few customers are expected to receive transportation services later in 2006.

Interruptible Full Service Rates

Duluth offers both firm and interruptible rates to its full service customers. In the past, Duluth needed to interrupt service to customers, both due to unmet gas commodity needs and disruptions in its transportation system. In recent years, Duluth has secured a second gas pipeline to its city gate and has also improved the reliability of its local transportation system. Due to these system improvements, Duluth no longer needs as many interruptible customers. Consequently, Duluth plans to close its Commercial/ Industrial Interruptible Small Volume rate class. It is recommended that this rate be closed immediately to new customers and that current customers be notified immediately that they will be moved to the Commercial/ Industrial Firm Small Volume rate in January 2010.

Stand-By Services

Duluth's gas utility has some large volume customers that use its gas system as a back-up system when other available fuels are more expensive than gas. Duluth's gas system must size its distribution system and have customer facilities available to meet these customers' needs at a moment's notice, even though there may be extended periods between these customers' use of the system. It is appropriate, under these circumstances, to charge a high monthly fixed fee to compensate the utility for the costs it has invested to provide stand-by service to these customers. This fixed fee should be based on the size of the customer wanting to use the utility system as a back-up.

Recommendations

1. It is recommended that Duluth implement all of the rates proposed in this section of the Report in November 2006.
2. It is recommended that Duluth close its Commercial/ Industrial Interruptible Small Volume rate to new customers immediately and notify its current customers that they will be moved to the Commercial/ Industrial Firm Small Volume rate in January 2010.
3. It is recommended that Duluth implement the recommended changes to its Purchased Gas Adjustment rate in November 2006, at the same time it implements its new proposed gas rates. These recommended changes are listed under "Purchased Gas Adjustment Recommendations" in this section of the Report.

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4. It is recommended that Duluth track on a monthly basis the cost of gas offered to Supplemental Agreement customers in their contracts and the cost of gas provided to its regular customers. This tracking will help provide documentation to verify the accuracy of the contract gas commodity rates provided to the Supplemental Agreement customers and also provide a record of the level of differences in the cost of gas for Supplemental Agreement and regular customers.
5. It is recommended that Duluth review and improve the quality of its customer and gas utility information recordkeeping, specifically:
 - Customer sales and revenues should be tracked by individual rate schedule.
 - Customer revenues should include only rate schedule and PGA revenues, not sales tax revenues.
 - Wholesale gas costs should be tracked by month in one data source, such as the current “Quarterly Reports” and this source should be the basis of all other reporting of wholesale gas costs, as well as calculation of the monthly PGA.
 - Tariff sheets should be developed for each rate schedule, listing terms and conditions of service, as well as the sizes of customers allowed on each rate schedule.

Estimated Operating Results at Proposed Rates

The estimated operating results for the Study Period incorporating the proposed rates are shown in the table below. The operating results below assume implementation of the proposed rates in combination with the proposed PGA base rate and calculation method in November 2006. Our summary of Duluth’s gas cash reserves is shown at the end of this section of the Report.

**City of Duluth
Estimated Annual Gas Operating Results
Proposed Rates**

Year	2006 ⁽¹⁾	2007	2008	2009	2010
Estimated Revenues	\$61,932,189	\$58,454,254	\$55,096,431	\$51,544,050	\$49,005,609
Estimated Revenue Requirements	<u>61,477,854</u>	<u>57,291,798</u>	<u>54,280,355</u>	<u>51,121,931</u>	<u>48,622,900</u>
Net Income	\$454,335	\$1,162,455	\$816,076	\$422,119	\$382,708
Net Income as Percent of Revenues	1%	2%	1%	1%	1%

(1) Based on beginning proposed rates in November 2006.

Gas Cash Reserves

Estimated cash reserves for Duluth's gas utility are presented in the table below. Estimated cash reserves using the rates proposed in this Report are expected to reach Duluth's goal of approximately \$4 million by the end of the Study Period.

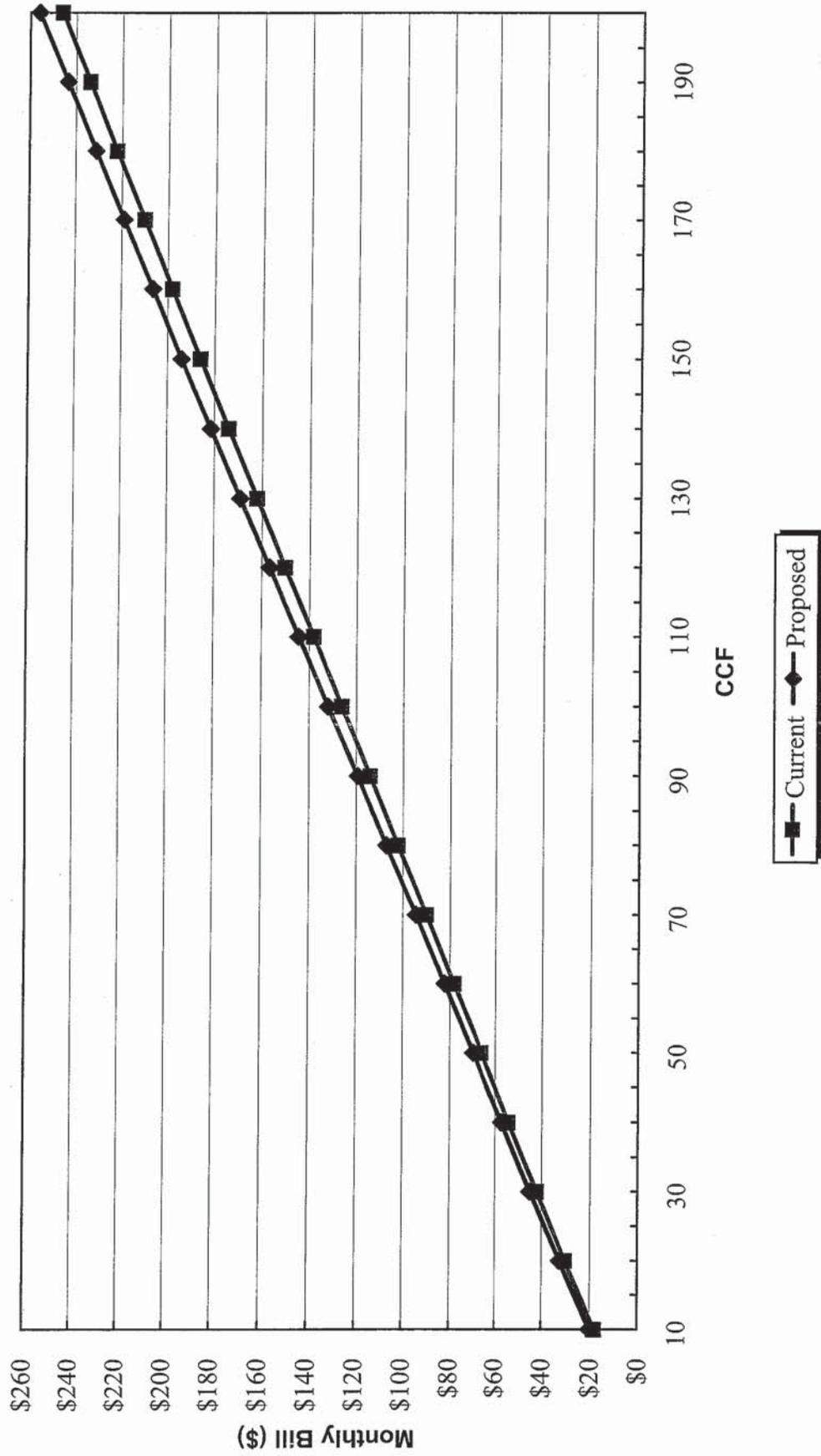
City of Duluth Estimated Gas Cash Reserves Proposed Rates					
Year	2006 ⁽¹⁾	2007	2008	2009	2010
Beginning of Year Cash Reserves	\$2,225,978	\$2,489,798	\$3,226,923	\$3,719,734	\$3,900,480
Plus Net Income	454,335	1,162,455	816,076	422,119	382,708
Plus Depreciation	1,172,685	1,236,970	1,289,635	1,361,228	1,408,080
Less Debt Service Principal	(825,000)	(844,000)	(927,700)	(955,700)	(990,800)
Less Capital Improvements	<u>(538,200)</u>	<u>(818,300)</u>	<u>(685,200)</u>	<u>(646,900)</u>	<u>(520,200)</u>
End of Year Cash Reserves	\$2,489,798	\$3,226,923	\$3,719,734	\$3,900,480	\$4,180,269

(1) Based on beginning proposed rates in November 2006.

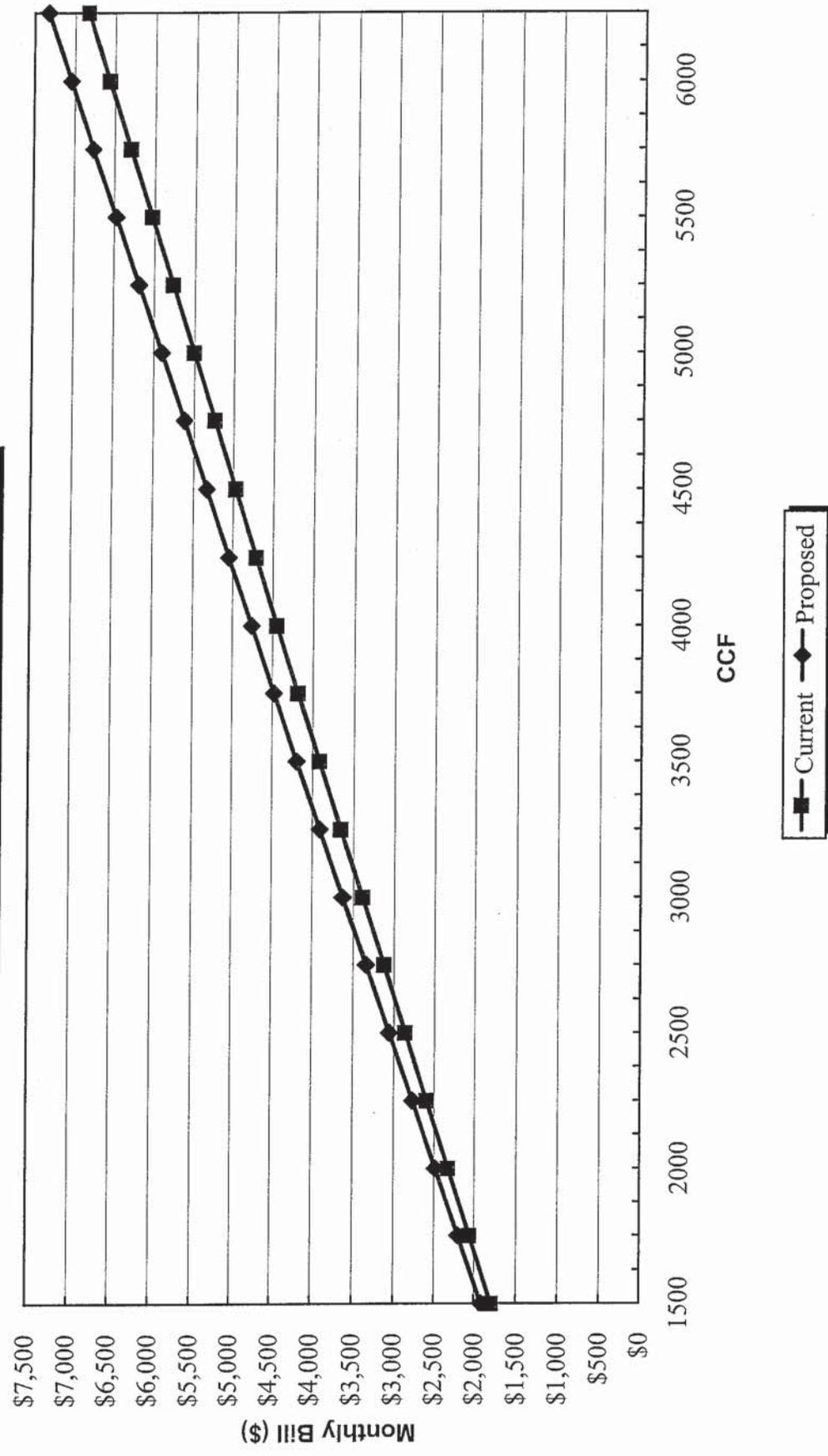
Rate Comparisons

Exhibits 5-A through 5-G show graphically the effect of the proposed rates on Duluth's monthly gas bills for Residential Small and Large Volume rates, Commercial/ Industrial Firm Small and Large Volume rates, Commercial/ Industrial Interruptible Small and Large Volume rates and Supplemental Agreement contract rates. These graphs are based on a range of monthly consumption for each class. The monthly bills are higher for all sizes of customers.

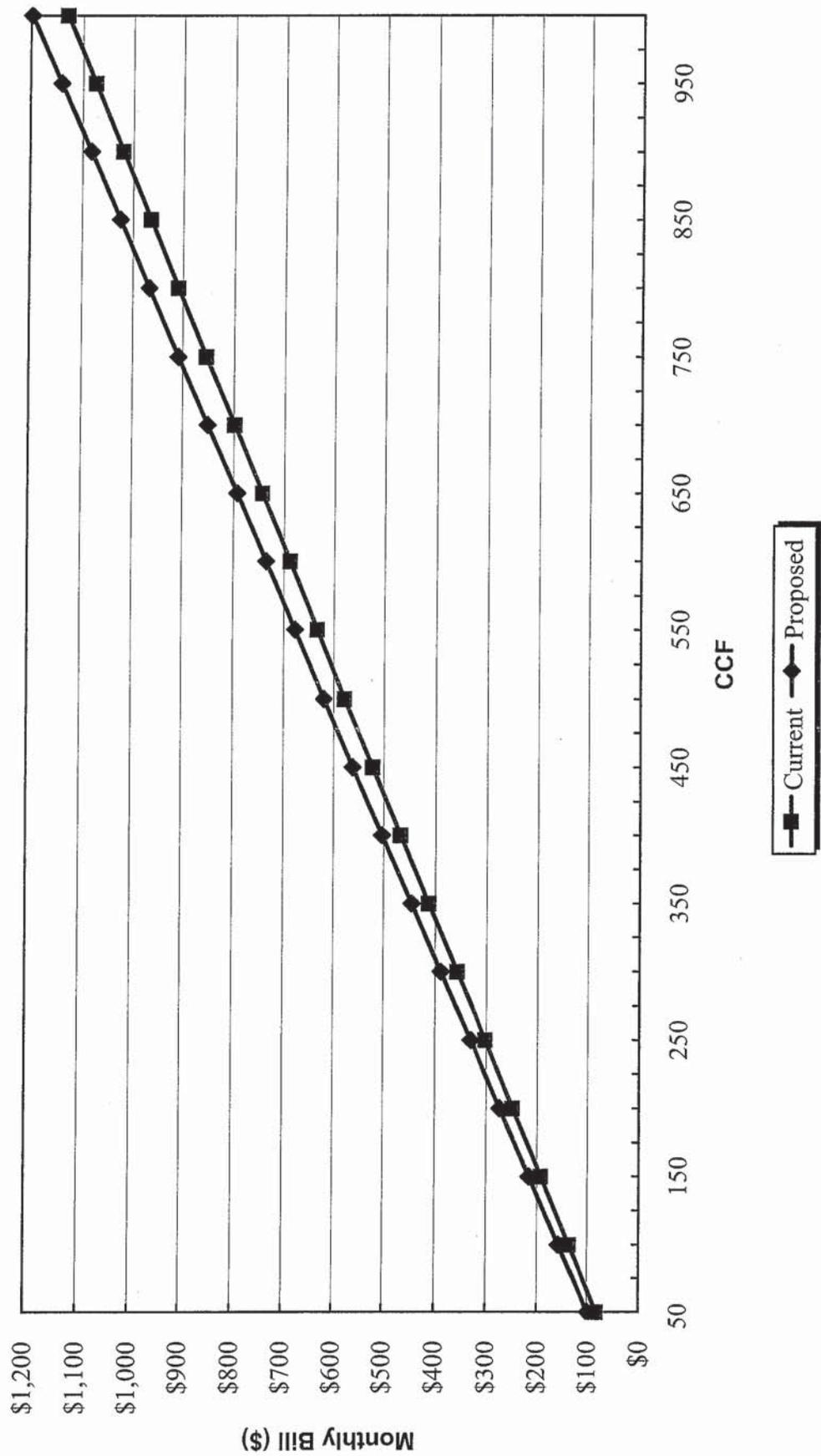
**City of Duluth, Minnesota
Residential Small Volume Gas Rate
Monthly Bill Comparison**



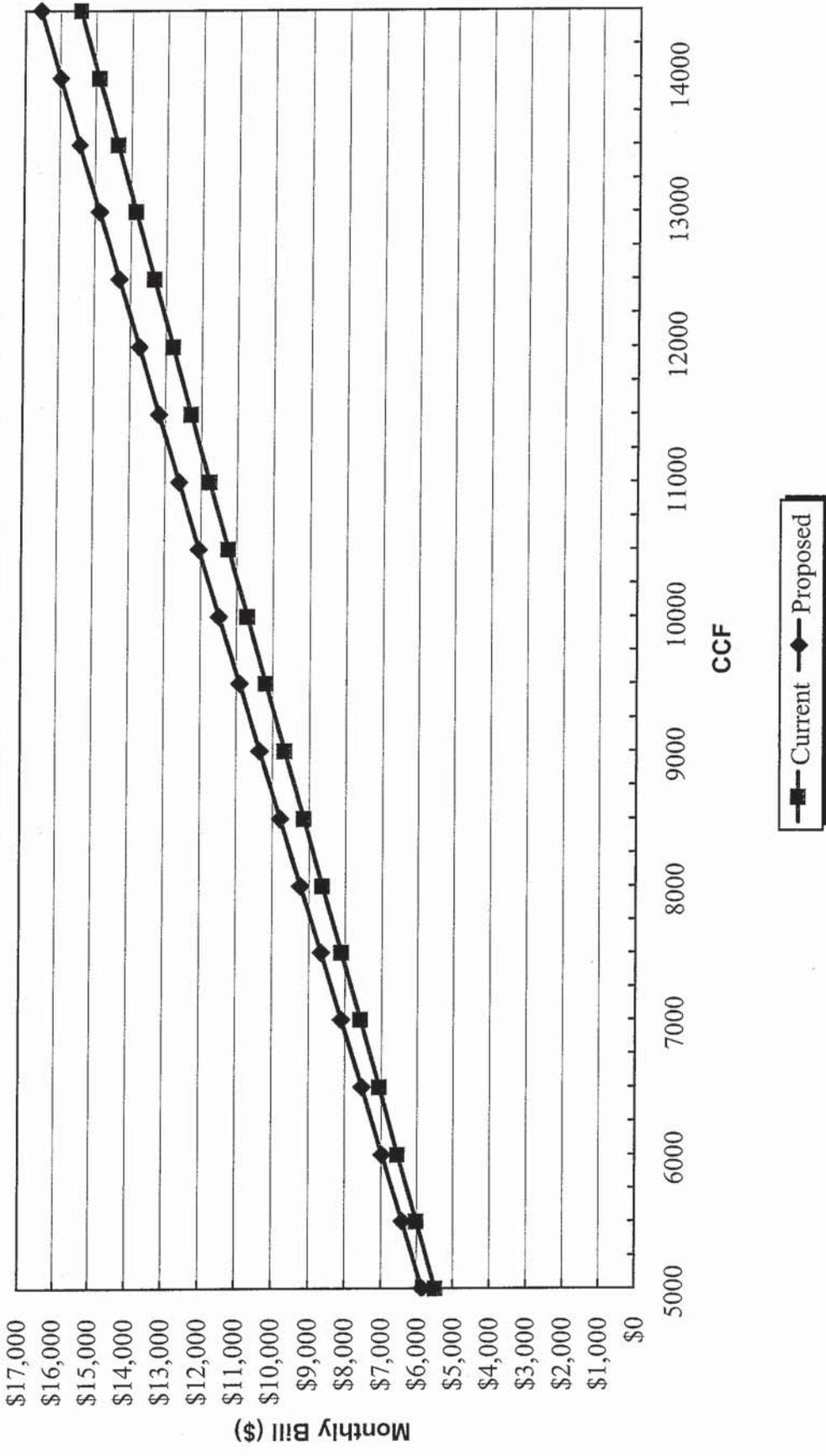
City of Duluth, Minnesota
Residential Large Volume Gas Rate
Monthly Bill Comparison



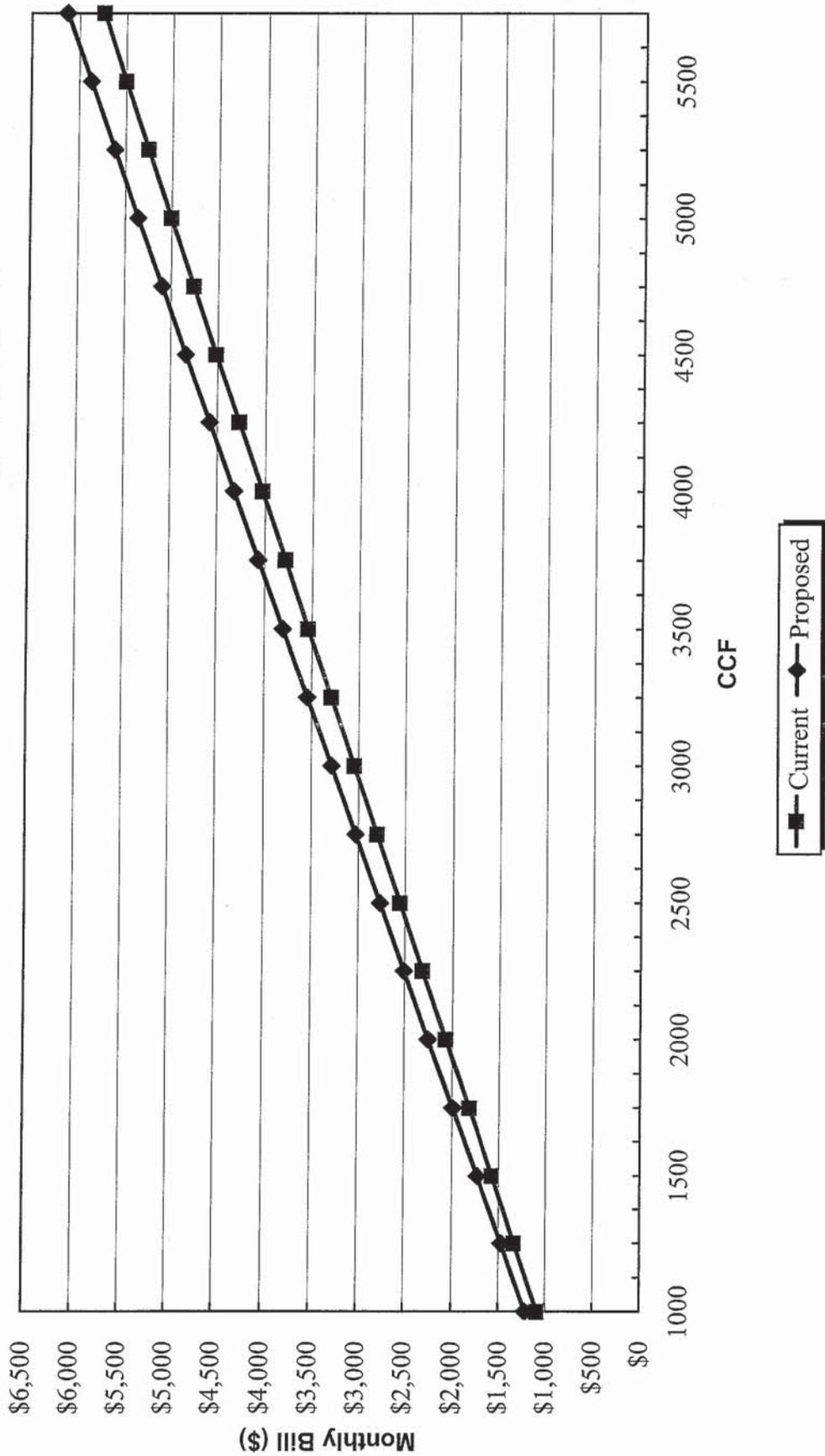
**City of Duluth, Minnesota
Commercial/ Industrial Firm Small Volume Gas Rate
Monthly Bill Comparison**



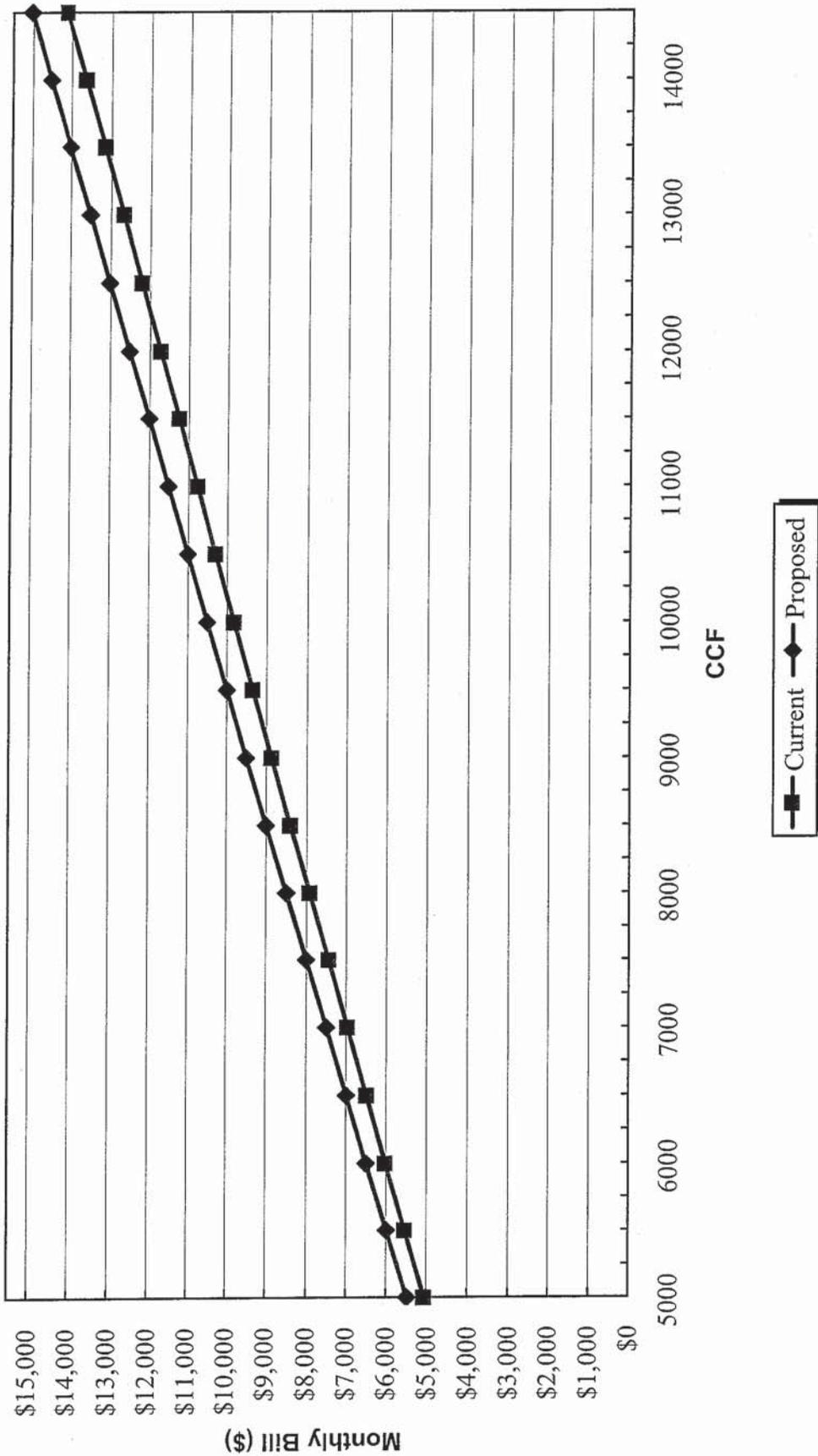
**City of Duluth, Minnesota
Commercial/ Industrial Firm Large Volume Gas Rate
Monthly Bill Comparison**



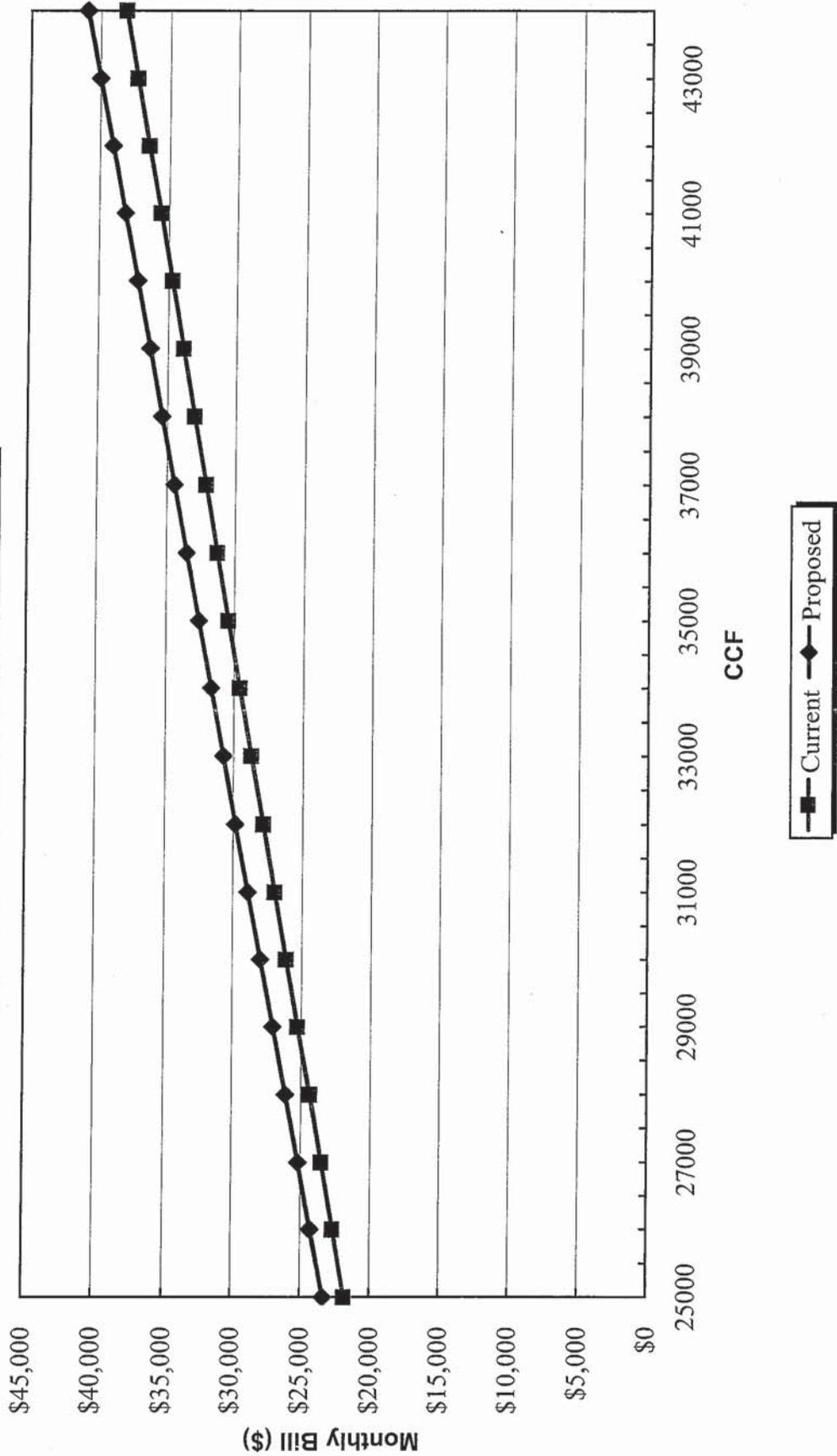
**City of Duluth, Minnesota
Commercial/ Industrial Interruptible Small Volume Gas Rate
Monthly Bill Comparison**



**City of Duluth, Minnesota
Commercial/ Industrial Interruptible Large Volume Gas Rate
Monthly Bill Comparison**



City of Duluth, Minnesota
Supplemental Agreement Contract
Monthly Bill Comparison



Appendix B

Project Team Resumes

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David Berg, P.E.

Senior Project Manager

Mr. Berg brings 27 years of consulting experience to the public utility sector. Utilizing a unique blend of technical and financial expertise, he effectively guides his varied clients through a wide variety of regulatory, operational, and technical challenges. Relevant projects on which Mr. Berg has served as project manager include:

- City of Duluth, Minnesota
- Austin Utilities, Minnesota
- Hutchinson Utilities, Minnesota
- Imperial Irrigation District, California

Mr. Berg assists utilities in planning for their financial and operational success in an increasingly complicated environment, as well as in educating them on the particular industry changes that could most significantly affect their operations. Serving as a trusted advisor on feasibility, financing, and contract negotiation projects, he provides a sound technical and financial basis upon which his clients rely to make decisions on purchasing, selling, or modifying facilities.

An SAIC leader in cost-of-service and rate design, Mr. Berg has led numerous studies to help utilities improve their rates in today's competitive climate. His rate recommendations are designed to improve the utilities' financial future while providing fair rates with correct pricing signals for the utilities' customers. For the last seven years, Mr. Berg has also taught cost-of-service and rate design classes at locations around the country to hundreds of utility staff, regulators, attorneys, and other industry professionals.

As senior project manager for numerous projects, Mr. Berg provides training and mentoring to staff members, ensures standards of practice are maintained, and implements SAIC's Quality Assurance/Quality Control measures. By serving as a company-wide leader and strategically applying his industry insight, Mr. Berg increases the value SAIC provides to its clients.

Mr. Berg is a well-regarded speaker at both utility training sessions and state and national conferences and is recognized for his ability to focus on the essential points of complicated issues and to recommend actions appropriate to the audience.

North Dakota State University

- M.S. in Electrical Engineering
- B.S. in Electrical Engineering

Professional Registration

Professional Engineer,
Electrical: MN, MO

Key Expertise

- Project management
- Revenue requirement analysis
- Cost-of-service studies
- Unbundled cost analysis
- Rate design
- Smart grid pricing analysis
- Economic evaluation
- Expert testimony
- Financial projections

The logo for SAIC, consisting of the letters "SAIC" in a bold, italicized, sans-serif font, with a registered trademark symbol (®) to the right.

Project Experience

Cost-of-Service and Unbundled Pricing Studies

Mr. Berg has managed cost-of-service and pricing studies for more than 50 utilities—ranging from traditional cost-of-service and cost-based rates to unbundled services, contract rates for large clients, and dynamic pricing. Having completed these analyses for natural gas, electric, water, wastewater, steam, and communications utilities, he has an in-depth understanding of how to design prices based on revenue requirements, cost-of-service, and competition from alternative service providers. Many of his utility clients have utilized his services for multiple rate studies. Mr. Berg also wrote an American Public Power Association guide to help small public power system stakeholders understand the ratemaking process. Although written more than a decade ago, the guide is still being utilized by policymakers to influence rate decisions in today's marketplace.

Mr. Berg is also an instructor in a four-day cost-of-service and rate design class taught in cities throughout the United States by SAIC rate experts. Class attendees are from the United States and many foreign countries and include regulators, attorneys and independent power producers, as well as management and staff from all types and sizes of utilities.

Mr. Berg has provided numerous additional services to help utility management better address the increasingly competitive environment of the electric industry, including analysis of competitors' rates, development of special rates, staff training, wholesale power contract analysis, and long-term planning discussions.

Mr. Berg offers expertise in:

- Revenue requirement analysis
- Cost-of-service studies
- Unbundled cost analysis
- Rate design
- Smart Grid pricing analysis

Expert Testimony and Utility Acquisitions

Mr. Berg has prepared analyses of municipal acquisitions and operations of electric utility systems. His work has included the establishment of a new municipal utility in a community that was not previously served by a municipally owned utility. It has also involved the expansion of an existing municipal utility service territory to include areas currently served by another utility. To facilitate this work, he has developed an estimated acquisition cost for utility systems based on state and federal regulations. He has also participated in mediation sessions between incumbent and acquiring utilities to negotiate a settlement prior to undertaking litigation. Mr. Berg has prepared and presented both written and oral testimony in support of municipal acquisition activities as well as appeared at public meetings to explain municipal acquisition proposals prior to general elections related to these issues.

Mr. Berg offers expertise in:

- Economic evaluation
- Preparation of written testimony
- Review of other participants' testimony
- Assistance to legal team
- Oral testimony

Power Supply Planning and Contract Reviews

Mr. Berg has provided value to numerous utility and cooperative clients in the areas of forecasting future power supply needs/costs and developing recommendations for more cost effective and reliable power supply strategies. He has also assessed transmission and distribution systems to ensure compatibility with the recommended plan and identified needed system additions. These customized studies have been based on an integrated planning approach, incorporating both supply side and demand side strategies when appropriate. They have ranged from analysis of alternative wholesale purchase arrangements for utilities purchasing most or all of their power needs, to studies for utilities that own generating facilities and produce the majority of their power requirements.

In conjunction with many of these studies, Mr. Berg has subsequently assisted in the negotiation of wholesale power contracts, as well as in the development of power and landfill gas sales contracts and capacity purchase agreements. Specific assistance to his clients in the area of contract negotiations ranges from providing general technical support, to issuing Requests for Proposals and evaluating proposal submittals, to acting as the spokesperson leading negotiations on behalf of his client. Mr. Berg has initiated new supply contracts with selected suppliers, pursued modifications to existing power supply arrangements, and resolved disputes regarding billings by generation providers under power supply contracts. To the extent negotiations result in modified arrangements or settlement of disputes, Mr. Berg also provides valuable input into the development of contract language and provisions to implement the agreed-upon concepts.

Mr. Berg offers expertise in:

- Load forecasting
- Power supply options analysis
- Wholesale market assessments
- Risk assessment
- Contract negotiations

Municipal Bond Financing

Mr. Berg has prepared Consulting Engineer's Reports for tax-exempt bond financings for over \$2 billion in projects. As part of this work, he reviews current and planned operations, examines the reasonableness of the planned work that requires financing, and reviews the operating expenses and projected sales revenues to verify a future source of funds for repayment of the bonds.

In addition, Mr. Berg has provided technical assistance to investment bankers, general counsel, and bond counsel in preparing the financing plan for issuance of the bonds and revenue bond marketing documents. When necessary, he meets with bond rating agencies, analysts, sales personnel, and institutional investors to insure market acceptance of security offerings.

Mr. Berg offers expertise in:

- Preparation of financial projections
- Coordination with finance team
- Preparation of required certificates

Theresa Kervin

Project Analyst

Theresa Kervin has 32 years of experience and is a senior analyst who performs research and analysis for public power systems and solid waste management districts. In her work with municipal gas, electric, water, telecommunications, and solid waste utilities, she analyzes utility financial records and operating statistics and develops pro forma operating results. She has performed numerous cost of service and rate design studies and has co-authored a rate design guide for small public power systems. She has also helped develop several solid waste management plans, including sections on household hazardous waste programs, special wastes, and public education.

Prior to joining SAIC, Ms. Kervin was employed at a large California gas and electric utility, where she was involved in the preparation of load research programs, cost-of-service studies, rate design studies, rate case testimony, and budget development.

Ms. Kervin offers extensive experience combining technical analysis with public and school education in areas such as electricity, solid waste, and a variety of environmental issues. Her work in solid waste curriculum development for elementary and high school students includes technical research and creation of lesson plans in natural resource use, management practices, resource recovery, and public policy.

Project Experience

Cost-of-Service and Unbundled Pricing Studies

Ms. Kervin has performed gas, electric, water, wastewater, telecommunications and district heating cost-of-service and rate design studies for numerous municipal utilities. Her work includes developing historical operating results, projecting power supplies and power supply costs based on customer sales projections, full cost-of-service analysis based on embedded costs, development of projected operating results, and design of new unbundled prices. Ms. Kervin also analyzes and redesigns utilities' energy cost adjustment clauses and provides an assessment of the utility's relative competitiveness through development of price and customer bill comparisons between the client utility and other utilities in the region. She has reviewed the cost-of-service models used to support general rate cases before state utility commissions and has spoken before state utility organizations on cost-of-service and rate design issues. Ms. Kervin also co-authored a guide for the American Public Power Association to help small public power

Loyola University
B.S. in Mathematics

University of
California, Berkeley
B.S. in Natural
Resources

San Francisco State
University
Graduate Studies in
Operations Analysis

Key Expertise

- Utility pricing studies
- Cost-of-service studies
- Rate design studies
- Rate case testimony
- Budget development

SAIC[®]

systems understand the rate design process, from developing revenue requirements to cost-of-service analysis and design of new prices.

This experience includes work for the following entities:

- Alexandria, Minnesota
- Austin, Minnesota
- Brainerd, Minnesota
- Elk River, Minnesota
- Grand Rapids, Minnesota
- Marshall, Minnesota
- Redwood Falls, Minnesota
- Shakopee, Minnesota
- Willmar, Minnesota
- Duluth, Minnesota
- Anoka, Minnesota
- Hutchinson, Minnesota
- Detroit Lakes, Minnesota
- Fairmont, Minnesota
- Litchfield, Minnesota
- Owatonna, Minnesota
- Rochester, Minnesota
- New Ulm, Minnesota
- Cedar Falls, Iowa
- Pella, Iowa
- Estherville, Iowa
- Denison, Iowa
- Sioux Center, Iowa
- Indiana Municipal Power Agency
- Missouri River Energy Services, Sioux Falls, South Dakota
- New Braunfels, Texas
- Del Rio, Texas
- American Public Power Association
- Springfield, Missouri
- Hannibal, Missouri
- Anaheim, California
- Riverside, California
- Imperial Irrigation District, California
- Provo, Utah
- Utah Division of Public Utilities
- Vermont Department of Public Service

Cost Comparison of Gas Pipeline Service

For a municipal client, Ms. Kervin performed a cost comparison of gas transportation service via a proposed new gas pipeline versus continued service from Northern Natural Gas (NNG). The analysis modeled the capacity and related costs under continued service by NNG and compared the present value (PV) of these estimated costs to the forecasted costs under the new gas pipeline. She developed a pro forma that showed the total capacity-related costs for 15 years under NNG service for a base case and various scenarios that assumed different levels of increased capacity needs. The costs for each organization's participation in a share of the proposed new gas pipeline for 15 years were also determined using different scenarios. The analysis provided total costs per year and a PV for the 15-year study period that allowed each organization to see the overall difference in the costs of service from the two different pipelines. When the pipeline owner revised its proposed costs and services in November 2006, Ms. Kervin updated the cost comparison at the municipality's request to reflect both the changes in the proposed new pipeline as well as projected NNG rate increases.

Pole Attachment Cost and Rate Studies

Ms. Kervin developed new pole attachment rates, as well as revisions to the utilities' pole attachment contract agreements, in order to allow the utilities to take advantage of the changes in rates allowed through the 1996 Telecommunications Act and current Federal Communications Commission (FCC) regulations. The rates were based on a cost analysis of the allowed capital and operating expenses related to the utilities' poles and underground conduit, as defined by the new FCC regulations. The new pole and conduit attachment rates were developed to take advantage of the newly allowed costs of the unusable space component of the utilities' poles and conduit. The revised contract agreements included provisions for make-ready costs, pole inventory schedules, penalties for non-approved attachments, and overlashing.

