

MEMORANDUM

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TO: UTILITIES ADVISORY COMMISSION
FROM: UTILITIES DEPARTMENT
DATE: MARCH 4, 2009
SUBJECT: CHANGES TO UTILITIES EQUITY TRANSFER METHODOLOGY

REQUEST

Staff recommends that the UAC recommend that the Council approve the proposed Utility Enterprise Methodology (UEM) that bases the equity transfers from the Gas and Electric Funds upon a rate of return on the asset base. This UEM method is proposed to be implemented beginning in fiscal year (FY) 2010.

BACKGROUND

As a result of the initial investment made by the City and its citizens, Palo Alto's residents and businesses have enjoyed favorable rates and utility services provided by the City's municipal utility. The services provided by the Gas, Water and Electric Funds provide a return on investment to the General Fund in the form of Utility Fund transfers, as established in the City's Charter. Article VII, Section 2 – Public utilities revenue, of the City Charter states:

The revenue of each public utility shall be kept in a separate fund from all other receipts and shall be used for the purposes and in the order as follows:

- (a) For the payment of the operating and maintenance expenses of such utility, including the necessary contribution to retirement of its employees.
- (b) For the payment of interest on the bonded debt incurred for the construction or acquisition of such utility.
- (c) For the payment of the principal of said debt, as it may become due.
- (d) For capital expenditures of such utility.
- (e) For the annual payment into a reserve fund for contingencies, of an amount not to exceed ten percent of the expenditure for capital outlay for the year, exclusive of bond fund expenditures. The total accumulated in this reserve for contingencies shall at no time exceed five percent of the book value of the utility's capital in service. This reserve fund shall be available for use by the utility, only for replacements or emergency repairs and after special appropriation by the council.
- (f) The remainder shall be paid into the general fund by quarterly allotments.

The historical transfers to the General Fund from the Gas, Water and Electric Funds from FY 1982 to FY 2009 are shown in Attachment A to this report.

1982 Price Waterhouse Study

In July 1982, the City executed a contract with Price Waterhouse to evaluate and determine the appropriateness of the method utilized to determine the transfer from the Utilities Funds to the General Fund. Price Waterhouse confirmed that the wastewater and refuse funds are considered “governmental functions” and no transfers to the General Fund are made, so the study focused on the “proprietary” utilities – gas, water and electricity.

The Price Waterhouse study noted that the City had a practice for its 82-year history of generating net income based on the provisions of the City Charter cited above. As part of the study, Price Waterhouse conducted a survey of how cities determine an appropriate transfer to their General Funds. This survey concluded that many methods were in use, but that cash transfers from proprietary funds to the General Fund are a common and accepted practice for cities in California and other states. The most common method was based on a percentage of revenues. The most common method for investor-owned utilities was the UEM. The City wanted to ensure that it would have a method that was in-line with the practice of other cities.

The study, which was completed in December 1982, noted that the City’s ratemaking methods varied for each utility at the time. The gas utility set retail rates equal to retail rates in Pacific Gas and Electric Company’s (PG&E) service area that surrounds Palo Alto. The equity transfer method for the gas utility was equal to the total revenues minus total costs for the gas utility. This formula could result in a negative transfer in the event that total costs exceeded total revenues. For the water utility, a “return on ratebase” method (also known as the Utility Enterprise Method, or UEM) was used to calculate the transfer to the General Fund. Price Waterhouse noted that the UEM is used by investor-owned utilities, such as PG&E, in California. The method links the transfer to the total investment made in the utility. For the electric utility, the transfer method was based on a Utilities Department ratemaking goal to include “a reasonable transfer to the City’s General Fund.”

In January 1983, Council was provided with the Transfers to the General Fund Study completed by Price Waterhouse (CMR: 143:3). The study recommended the use of the UEM in which the three proprietary enterprises (water, gas and electric) are viewed as taxpayers’ assets which should yield a reasonable return on the assets dedicated to the systems. Using the UEM, the transfer to the General Fund is calculated by multiplying the net plant assets of each utility by the rate of return. The study also recommended the City Council consider a “range of reasonableness” in determining the appropriate transfer to the General Fund.

The recommended “range of reasonableness” included a lower and upper boundary on the rate of return to be used in the UEM calculation. The lower end of the range used a rate of return equal to the current rate on Treasury bonds, a long-term, risk-free investment. The upper end of the range would be based on the rate equal to that used by the California Public Utilities Commission for investor-owned utilities, such as PG&E.

1997 Council Action

In 1996, a landmark electric utility deregulation bill (AB 1890) was passed by the California legislature. It allowed, as of March 31, 1998, customers to choose their electric commodity supplier. In addition, the Utility Infrastructure Improvement Program (UIIP), which began in FY 1991, had led to increased funding of Capital Improvement Program (CIP) projects, increasing the asset bases of the Water, Gas, and Electric Funds. Since the UEM is based on the asset base, the UIIP led to an increase in the level of transfers to the General Fund.

The combined effect of customers potentially “leaving” the Palo Alto system in order to be served by an alternate commodity supplier and the upward pressure on rates caused by rapidly increasing transfers to the General Fund led staff to review the equity transfer methodology. Responding to these conditions, in 1997, the City Council froze transfers from the Gas, Water and Electric Funds to the General Fund at FY 1997 levels of \$11.835 million annually.

2000 R. W. Beck Study

In 1999, the City selected R. W. Beck to evaluate methodologies for Utility Fund transfers to the General Fund. The study’s scope included the review of existing transfer methodologies, identification of alternative methodologies, and the development of recommendations.

The R. W. Beck Utility Funds Transfer Study was completed in March 2000. The study concluded that the current UEM transfer methodology is viable if it undergoes certain modifications to recognize the risk associated with the electric and gas supply business. The analysis performed in 2000 resulted in a recommendation that the City adopt an equity transfer policy around the Utility Enterprise Method that had been adopted by the City after a 1982 study by Price Waterhouse. The Utility Enterprise Method is based on a Rate of Return on Rate Base methodology. The final recommendation contained in R.W. Beck’s 2000 report was not ultimately adopted by the City.

The UAC reviewed the R. W. Beck Utility Funds Transfer Study in March 2000 and concurred with staff’s recommendation to change the transfer methodology as follows:

- For the Water Fund, increase the transfer at an annual rate of 3 percent per year from the initial level of \$2.044 million for FY 2000.
- For the Electric Fund, calculate the transfer based on 14.5 percent of Adjusted Sales Revenue (ASR), where ASR is defined as the metered sales revenue less the Capital Improvement Program (CIP) expenditures.
- For the Gas Fund, use the same basic methodology, but use 15 percent of ASR in the calculation.
- Include in the methodology a sharing arrangement in case of a loss faced by one of the utility funds

In April 2000, the City Council approved the recommended methodology for the equity transfers (CMR: 223:00).

Change in Fiscal Year 2002

In the FY 2002 budget, staff recommended that the equity transfer from the Electric and Gas Funds change so that increases to the transfers are capped at 3 percent per year due to volatility of electric and gas commodity costs. Since FY 2002, the equity transfers have increased by 3% from the previous year's transfer amounts.

DISCUSSION

More recently, the City decided to conduct a review of the methodologies for the water, gas and electric equity transfers. The City hired the firm of Black and Veatch in 2008 to review the water fund equity transfer. After examining the water equity transfer methodology study and the practices of other public agencies, staff decided to cease the equity transfer to the General Fund from the Water Fund beginning in FY 2010. In addition, R. W. Beck was engaged in early 2009 to review its recommendations from 2000 and to again evaluate alternate equity transfer methodologies. R. W. Beck completed its review of the electric and gas equity transfers in February 2009, identifying alternative methodologies and recommending a methodology for the future that is fair and reasonable.

R. W. Beck's letter report (Attachment B) identified some of the common methods used by municipally-owned utilities to determine an equity transfer to the general fund of the city. These methods are described in the report and include:

- Return on Rate Base – essentially the UEM
- Percent of Gross Revenue – based on retail revenues
- Percent of Net Revenue – based on retail revenues less certain identified expenses
- Rate per Unit Delivered – a fixed amount per kilowatt-hour delivered
- Fixed Amount – predetermined amount independent of operational costs or revenues

R. W. Beck recommends that the City employ a Return on Rate Base method similar to the UEM utilized in the past by Palo Alto.

The recommended method requires the annual calculation of the "rate base" for the Electric and Gas Funds. The rate base contains the following components that are added together:

- Net asset value of the utility assets as of the latest audited fiscal year. This is calculated every year by the Administrative Services Department by adding in capital additions in the prior year and depreciating the capital plant in existence at the beginning of the prior fiscal year according to the lifetimes of each asset. The latest audited net asset value will be for the prior fiscal year and will be found in the City's Comprehensive Annual Financial Report (CAFR);
- Working capital for the supply purchases for the upcoming fiscal year. This is calculated by multiplying the budgeted cost for supply purchases by 1/12 since the City needs to reserve sufficient funds for one month of these costs;
- Working capital for the non-energy supply operating costs for the upcoming fiscal year. This is calculated by multiplying these costs by 1/8 since there is approximately a 45-day lag from customer usage of the energy deliveries and payment received for the energy deliveries;

- Additional capital projects budgeted during the current fiscal year. This is equal to the additional budgeted capital improvements minus the expected customer funded improvements; and
- Additional capital projects planned to be added during the upcoming fiscal year. This is equal to the additional budgeted capital improvements minus the expected customer funded improvements. This total amount is divided by two to approximate the average CIP and customer funded improvements during the fiscal year.

The rate base is then multiplied by an appropriate return on equity to calculate the equity transfer. R. W. Beck recommends using an adjusted return on equity based on the return on equity allowed by the California Public Utilities Commission for PG&E. R. W. Beck recommended methodology has two adjustments to PG&E's allowed return on equity to account for differences between an investor owned utility (IOU) like PG&E and a municipally owned utility. The first adjustment is a tax adjustment and the second is a risk adjustment.

The tax adjustment compensates for the fact that the City of Palo Alto Utilities is a tax-exempt entity and the City does not pay taxes on its collected return. The tax adjustment is 30%, which is reflective of the total tax rate for taxable entities. The risk adjustment is based on the concept that an investment in a municipal utility is less risky than an investment in an IOU. R. W. Beck advised that the difference in yield between corporate bonds and municipal bonds cannot be entirely explained by the tax adjustment alone. R. W. Beck recommends a 15% factor for this risk adjustment.

The calculation of the return on equity appropriate for Palo Alto, then is equal to PG&E's approved return on equity multiplied by 0.70 (1-.30, the tax adjustment) multiplied by 0.85 (1-.15, the risk adjustment). As an example, using PG&E's current approved return on equity of 11.35%, the total return for Palo Alto would be equal to 11.35% times 0.7 times 0.85, or 6.75%. When this return on equity is multiplied by the rate base, calculated as described above, the answer is the equity transfer for the Electric and Gas Funds.

If this methodology were in place for FY 2009, the calculation would be as follows for the Electric and Gas Funds:

Electric Equity Transfer:

\$143,377,000 – net asset value as of June 30, 2007 from the FY 2007 CAFR¹
 + 6,393,000 – supply working capital (supply purchases divided by 12)
 + 5,241,000 – operating expenses working capital (operating expenses divided by 8)
 + 9,260,000 – FY 2008 budgeted CIP less customer funded improvements
 + 4,037,000 – FY 2009 budgeted CIP less customer funded improvements divided by 2
 \$168,308,000 – total electric rate base

Electric Equity Transfer = \$168,308,000 * 0.0675 = \$11,361,000

¹ Adjusted for fiber optic net asset value

Gas Equity Transfer:

- \$ 65,471,000 – net asset value as of June 30, 2007 from the FY 2007 CAFR
- + 2,324,000 – supply working capital (supply purchases divided by 12)
- + 1,534,000 – operating expenses working capital (operating expenses divided by 8)
- + 6,365,000 – FY 2008 budgeted CIP less customer funded improvements
- + 3,355,000 – FY 2009 budgeted CIP less customer funded improvements divided by 2
- \$ 79,049,000 – total gas rate base

Gas Equity Transfer = \$79,049,000 * 0.0675 = \$5,336,000

The proposed method results in equity transfers to the General Fund for FY 2010 of \$11,763,000 from the Electric Fund and \$5,472,000 from the Gas Fund for a total equity transfer of \$17,236,000. The table below shows the projected transfers using the proposed method for the next five fiscal years given the projected CIP expenditures for each fund.

Estimated Equity Transfer Using Proposed Methodology (\$million)

Equity Transfer (\$000)	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Electric Fund	11.76	12.11	12.31	12.49	12.74
Gas Fund	5.47	5.32	6.02	6.33	6.60
Total Equity Transfer	17.23	17.43	18.33	18.82	19.33
Annual Rate of Change	N/A	1.1%	5.2%	2.7%	2.7%

RESOURCE IMPACT

The total equity transfer from Utilities Funds for FY 2009 is \$15.07 million. If the current method of increasing the equity transfer by 3% per year were used for FY 2010, the equity transfer would be \$15.52 million. The proposed equity transfer method will increase the total equity transfer from Utilities for FY 2010 to \$17.23 million, or an increase of approximately \$1.7 million. The equity transfers are part of the Utilities revenue requirement and the costs will be recovered from gas and electric ratepayers.

Since the equity transfer from the Water Fund will cease in FY 2010, the Water Fund revenue requirement is reduced by the amount of the transfer amount, or approximately \$2.75 million. The proposed equity transfer method will increase the equity transfer from the Gas Fund by about \$2.2 million for FY 2010 compared to what it would have been if the current method continued. The proposed equity transfer method will increase the equity transfer from the Electric Fund by about \$2.2 million for FY 2010 compared to what it would have been if the current method continued.

POLICY IMPLICATIONS

The recommended changes to the equity transfer methodology require Council approval.

ATTACHMENTS

- A. Historical Equity Transfers from Electric, Gas, and Water Funds
- B. February 26, 2009 letter from R. W. Beck to the Director of Administrative Services regarding the equity transfer

PREPARED BY:

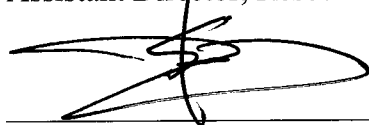
SHARON BOZMAN

Manager, Budget



JANE RATCHYE

Assistant Director, Resource Management



APPROVED BY:

LALO PEREZ

Director of Administrative Services

APPROVED BY:



VALERIE O. FONG

Director of Utilities

Attachment A: Historical Equity Transfers to the General Fund**Historical Equity Transfers to the General Fund**

Fiscal Year	Water Fund	Electric Fund	Gas Fund	Total	Increase (%/year)
1982	1,133,000	7,829,000	139,000	9,101,000	+40.8%
1983	487,000	7,689,000	568,000	8,744,000	-3.9%
1984	811,000	5,845,000	1,003,000	7,659,000	-12.4%
1985	710,000	5,500,000	864,000	7,074,000	-7.6%
1986	726,000	5,500,000	875,000	7,101,000	+0.4%
1987	910,000	5,500,000	2,309,000	8,719,000	+22.8%
1988	909,996	6,445,620	1,594,992	8,950,608	+2.7%
1989	1,453,000	6,011,000	1,103,000	8,567,000	-4.3%
1990	1,460,000	6,098,000	1,215,000	8,773,000	+2.4%
1991	11,112	6,126,600	1,383,500	7,521,212	-14.3%
1992	1,703,000	6,498,000	1,444,000	9,645,000	+28.2%
1993	1,123,000	6,165,000	1,713,000	9,001,000	-6.7%
1994	1,300,000	6,752,000	1,693,000	9,745,000	+8.3%
1995	1,741,000	6,187,000	1,653,000	9,581,000	-1.7%
1996	1,622,000	7,200,000	1,969,000	10,791,000	+12.6%
1997	2,044,000	7,316,000	2,475,000	11,835,000	+9.7%
1998	2,044,000	7,316,000	2,475,000	11,835,000	0%
1999	2,044,000	7,316,000	2,475,000	11,835,000	0%
2000	2,044,000	7,316,000	2,475,000	11,835,000	0%
2001	2,105,328	7,315,992	2,475,000	11,896,320	+0.5%
2002	2,168,480	7,535,480	2,549,250	12,253,210	+3.0%
2003	2,233,534	7,761,544	2,625,728	12,620,806	+3.0%
2004	2,300,540	7,994,390	2,704,500	12,999,430	+3.0%
2005	2,369,556	8,234,222	2,785,635	13,389,413	+3.0%
2006	2,440,643	8,481,248	2,869,204	13,791,095	+3.0%
2007	2,513,862	8,735,686	2,955,280	14,204,828	+3.0%
2008	2,589,278	8,997,756	3,043,938	14,630,972	+3.0%
2009	2,666,956	9,267,688	3,135,256	15,069,901	+3.0%

February 26, 2009



Mr. Everardo Perez
Director – Administrative Services Department
City of Palo Alto
250 Hamilton Avenue
Palo Alto, CA 94301

Subject: **General Fund Transfer**

Dear Mr. Perez:

The City of Palo Alto, CA contracted with R. W. Beck to review the current methodology for determining general fund transfers from the City's Electric and Gas Enterprise Funds and to make a recommendation regarding future policy on this issue. R. W. Beck previously analyzed this issue for the City and the results of that analysis were presented in a March 9, 2000 report to the City. To facilitate this effort, R. W. Beck personnel participated in a one day meeting with City and Utility personnel to discuss the current status of General Fund Transfers and options for moving forward.

Current Process

The analysis performed in 2000 resulted in a recommendation that the City adopt a General Fund Transfer policy around the Utility Enterprise Method that had been adopted by the City after a 1982 study by Price Waterhouse. The Utility Enterprise Method is based on a Rate of Return on Rate Base methodology. The final recommendation contained in R.W. Beck's 2000 report was not ultimately adopted by the City. Since 2000, the General Fund Transfers have been based on previous year's levels of transfer adjusted up by an inflation factor of 3%. After nearly 10 years of this fixed amount plus inflation method of determining the General Fund Transfer, the City determined it was time to revisit the issue.

Alternative Methods

It is very common that a municipally-owned utility makes some sort of transfer to the general fund of the city. The methods for determining the level of transfer vary from utility to utility. Some of the common methods for calculating the amount of transfer include:

- Return on Rate Base
- Percent of Gross Revenue
- Percent of Net Revenue
- Rate per Unit Delivered
- Fixed Amount

Cities have varied reasons for choosing one of the methods listed above. A Return on Rate Base method is modeled after the regulated return on equity that investor owned utilities are allowed

by state commissions. The city, as the owner of a municipal utility, is seeking to receive a return on the capital investment made in the utility. The calculation is not typically exactly the same as for a regulated IOU, but the concept parallels the IOU methods. Tying the transfer to rate base is generally expected to result in a fairly predictable and stable transfer that increases over time as new investments are made in the system. If a utility is not growing or making investments in its infrastructure, this can lead to reducing transfers as rate base is diminished over time due to accumulated depreciation on system assets.

A Percent of Gross Revenue method is simply based on the total retail revenues that a utility is collecting from its customers. As sales and rates go up into the future, the general fund transfer will increase as well. If external forces cause rates to increase at a pace greater than inflation, there can be a concern that this method will become overly burdensome for ratepayers. Likewise, if sales decrease due to economic forces or the loss of load the city may see a reduction in the general fund transfer.

A Percent of Net Revenue method is similar to a Percent of Gross Revenue method, except the percentage is applied to net revenue after certain expenses. This method may exclude certain or all of a utility's operating expenses. Wholesale power costs or fuel may be excluded to insulate the general fund transfer calculation from those external economic forces. This method is dependent on the utility maintaining a margin above operating expenses. Short-term circumstances may increase or decrease a utility's effective margin and can have a dramatic impact on the level of general fund transfer under this method.

On a Rate per Unit Delivered method, the city collects a fixed amount per kwh of electricity or per therm of natural gas delivered to the utility's retail customers. The amount per unit may be adjusted for inflation going forward. This method results in a transfer that is dependent on the volume of sales for the utility. Things like weather and economic activity can impact the level of transfer under this method.

Under a Fixed Amount method, a predetermined amount is transferred each year from the utility to the city. This amount is not dependent on any operational or economic pressures on the utility. The amount may be adjusted on an annual basis. This method can sometimes be viewed as somewhat arbitrary and open to manipulation.

Whatever method a city uses to determine the level of general fund transfer from its municipal utility, it is important that the method be reasonable, non-arbitrary and fair. It is also important that the method be predictable and provides a relatively consistent return to the city for its investment in a municipal utility.

Recommended Method

Based on our meetings with City and Utility personnel and our analysis of Palo Alto's specific circumstances, we recommend that the City employ a Return on Rate Base method similar to the Utility Enterprise Method previously utilized by Palo Alto. The first step in employing this method is the calculation of rate base. For each fiscal year, the effective rate base is determined for both the electric and natural gas utilities based on the net book value of fixed assets including

certain adjustments. The net book value of electric and natural gas utility assets as of the latest audited Comprehensive Annual Financial Report (CAFR) is adjusted for working capital and capital improvements. The working capital adjustment is based on 1/12th of the budgeted energy supply since the City needs to reserve sufficient funds for one month of these costs, plus 1/8th of the non-energy supply operating expenses for each utility. The calculation for the non-energy supply operating costs takes into account the approximately 45-day lag between customer usage and energy deliveries and payment.

Adjustments for capital are equal to the budgeted capital improvements program (less customer reimbursements) for the current fiscal year and one-half of the budgeted capital improvements program less customer reimbursements for the upcoming budget year. Total rate base is equal to the audited net book value of fixed assets plus working capital adjustment plus capital adjustment.

The City, as the equity investor in the Utility, is entitled to a return on that investment. Once the rate base is determined, an appropriate return on equity is used to calculate the annual general fund transfer for each of the utilities. The recommended return on equity for Palo Alto is based on the regulated return on equity for Pacific Gas & Electric (PG&E) with adjustments for differences between an investor owned utility (IOU) and a municipally owned utility. PG&E's current approved return on equity is 11.35%. The PG&E return is adjusted lower based on a tax adjustment and a risk adjustment. A municipally owned utility is a tax exempt entity and the City does not pay taxes on its collected return. The adjustment for taxes has been set at 30%. The risk adjustment is based on the concept that an investment in a municipal utility is less risky than an investment in an IOU. Municipal utilities are not subject to the same regulatory risk as IOUs. In general, investors and rating agencies believe municipal utilities are less likely to default on debt than IOUs. In our opinion, this translates into justification for a lower rate of return on equity for a municipal utility. For the calculation of an appropriate return for Palo Alto as compared to PG&E, a 15% reduction in return is recommended. The total return for Palo Alto is equal to PG&E's 11.35% return times (1-.3) to adjust for taxes and times (1-.15) to adjust for risk. This calculation yields an annual return for Palo Alto equal to 6.75%. This return is multiplied by the total rate base to yield the general fund transfer for both the electric and natural gas utilities.

An example of the annual calculation that would have been applicable to fiscal year 2008/2009 is shown in the table below. Total rate base is \$168,308,000 for the electric utility and \$79,049,000 for the natural gas utility. Using a return on equity of 6.75% yields an annual general fund transfer of \$11,361,000 for the electric utility and \$5,336,000 for the natural gas utility.

Mr. Everardo Perez
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Example Calculation
2008/2009 Fiscal Year
(\$000)

	Electric	Natural Gas
Net Book Value ⁽¹⁾	\$143,377	\$65,471
Energy Supply ⁽²⁾	6,393	2,324
Operating Expenses ⁽³⁾	5,241	1,534
CIP – Reimbursements ⁽⁴⁾	<u>9,260</u>	<u>6,365</u>
(CIP- Reimbursements)/2 ⁽⁵⁾	<u>4,037</u>	<u>3,355</u>
Total Rate Base	\$168,308	\$79,049
Return on Equity ⁽⁶⁾	6.75%	6.75%
General Fund Transfer	\$11,361	\$5,336

⁽¹⁾ As of 6/30/2007 from the FY 2007 CAFR.

⁽²⁾ Annual energy supply expenditures divided by 12.

⁽³⁾ Annual non-energy supply operating expenses divided by 8.

⁽⁴⁾ Capital Improvement Plan less customer reimbursements, per FY 2008 Adopted Budget.

⁽⁵⁾ Capital Improvement Plan less customer reimbursements divided by 2, per FY 2009 Adopted Budget

⁽⁶⁾ $11.35\% * (1-.3) * (1-.15)$.

We appreciate the assistance we received from both City and Utility personnel in this effort.

Sincerely,

R. W. BECK, INC.



David A. Berg, P.E.
National Director

dab/cmp