

**Kirkwood Meadows Public Utility District  
Energy Finance Committee**

**Methodology for Establishing Revised Electricity and  
Propane Rates**

(October 10, 2011 - Revised)

This document explains the objectives and approach for revising electricity and propane rates for the Kirkwood Meadows Public Utility District (KMPUD). KMPUD completed its purchase of Mountain Utilities on July 22 and became the supplier of electricity and propane. The initial rates, established in April, 2011, were approved by the Board and were based on preliminary cost estimates. The proposed revised rates reflect current costs and a more equitably allocation of those costs.

**Objectives**

Our objectives are to

- Meet the needs of the Kirkwood community for reliable and affordable power
- Establish a rate structure that is equitable
- Establish a process to accurately reflect actual costs on a monthly basis
- Establish rates that reflect the full costs of long-term financing and will give investors confidence in KMPUD's ability to service its debt

In May of this year, KMPUD sold a significant amount of short-term debt (\$22,145,000) and will need to replace that debt with long-term debt financing no later than May 2013. The rate structure is designed to anticipate additional financial requirements that will arise from long-term debt and prepare for those requirements.

**Proposed Revisions**

The current KMPUD rates are a flat, fixed 50.55 cents/kilowatt-hour (kwh) for electricity and 8.52 cents/cubic foot for propane. These rates are about 6 cents higher for electricity than the average for the last year from Mountain Utilities and about 1 cent lower for propane. The increase is due primarily to the higher price of diesel in 2011.

The proposed revised rates are:

Electricity

- |                             |                             |
|-----------------------------|-----------------------------|
| 1. Usage (Variable) Rate    | \$ 0.4758 per kilowatt hour |
| 2. Base Rate                | \$20.00 per meter per month |
| 3. Remote-Read Meter Charge | \$ 2.94 per meter per month |

4. A fuel adjustment has been established as part of the proposed Usage Rate. The charge adjusts for the difference between KMPUD's actual fuel costs in the month and the budgeted rate of \$3.21/gallon for diesel.

### Propane

1. Usage (Variable) Rate                      \$ 0.084 per cubic foot
2. Base Rate                                      \$ 5.00 per meter per month
3. Remote-Read Meter Charge              \$ 3.20 per meter per month
4. A fuel adjustment has been established as part of the proposed Usage Rate. The charge adjusts for the difference between KMPUD's actual fuel costs in the month and the budgeted rate of \$0.0557/cubit foot for propane.

### Components of the rates

The rates for electricity and propane include two major components:

1. Capital costs – The cost of the capital needed to build the In-valley operations. This consists of:
  - a. Capital expenditures and capitalized interest during construction – We expanded the bond offering by borrowing funds to cover two years' interest payments, as this provided greater security to the purchasers of the Notes and thereby increase investor participation and reduced the interest rate.
  - b. Debt service – The electricity and propane rates include the first of a two-step rate adjustment plan designed to produce sufficient funds to make long-term debt amortization payments.
2. Operations costs – The total costs to deliver energy to a Kirkwood resident or business
  - a. Operations costs – The fixed and variable costs of providing power including labor, distribution, etc
  - b. Fuel costs – Diesel or propane variable cost based on usage

### Bond offering

The costs of establishing the electricity and propane service and purchasing the assets of Mountain utilities were paid by issuing bond anticipation notes (BANs) that were sold on May 23, 2011. They consisted of \$3,310,000 in taxable bonds for purchase of MU and \$18,835,000 in tax- exempt bonds for construction of In-valley, refinancing of existing bond anticipation notes that have paid for In-valley, Out-

valley and other District needs to date and retiring two District loans. (See [www.royceprinting.com/jobs/FOSarchive/2011FOS/05\\_23\\_11\\_KirkwoodMeadowsFOS.pdf](http://www.royceprinting.com/jobs/FOSarchive/2011FOS/05_23_11_KirkwoodMeadowsFOS.pdf) for the Official Statement.) The BANs pay interest semi-annually and have a two-year maturity date (with a “call” option after 12 months). The buyers of KMPUD BANs needed to assess the risk that the District has the ability to make the semi-annual interest payments and access the bond market to pay off the BANs within two years. The District’s plan is to issue new long-term bonds during the second year that the BANs are outstanding.

The District eliminated the risk of making the bond interest payments by putting all the funds needed to make those payments in a protected account held by the BAN “Trustee” bank. This “capitalized interest” requires us to borrow the money for the interest payments (originally estimated at an additional \$1,882,000), but we know it made the BANs more saleable and allowed a slightly lower interest rate. The capitalized interest adds about 0.9 cents to the electricity rates.

The second risk potential BAN investors assessed was whether the District can pay off the BANs in two years through a new, long-term bond financing. The District demonstrates its ability to access the long-term capital market by showing that the Board is willing to implement electricity and propane rates sufficient to pay BAN debt service, above what is needed to fund operations; and that these rates allow the District to build a reserve (see Reserve/Rate Stabilization Fund below). The District will do this in two steps. The first step will put into the Reserve/Rate Stabilization Fund over two years, an amount equal to the originally estimated interest due on the BANs (\$1,882,000). The second step in establishing rates will be to include a fixed amount that produces cash flow equal to 120% of the annual debt service on the long-term bonds. Bond investors and rating agencies need to see a “cushion/coverage” in rates that over-collects. The District can use this 20% “coverage” amount for unexpected costs, either operating or capital, build up reserves or be credited to utility customers in subsequent years.

The District’s initial rates are sufficient to collect 100% of the interest payments that apply on the interest rates for the BANs of 3.89% for tax-exempt and 5.00% for taxable bonds. Interest rates on the District’s long-term financing could be higher or lower depending on the source of fund and interest rates at the time of financing. When we do the long-term bond financing in one to two years, we will make a rate adjustment based on collecting funds equal 120% of the expected annual bond debt service including principle and interest.

Rates charged will produce cash that will be deposited in a “Reserve/Rate Stabilization Fund” (“RSF”) held by the Trustee bank. The RSF is initially pledged to make debt payments but long-term it also can be used to keep the utility rates consistent by absorbing temporary fluctuations in costs. By setting rates to fund the RSF now:

1. We demonstrate our intention to set rates that support the debt payments for the long-term,

2. We build up cash over the next two years (because we make the actual semi-annual interest payments from the capitalized interest),
3. We establish reserves that will be needed for the long-term financing; and
4. We are in a better position to complete the long-term financing that the District has never done before in such size and pledging utility revenues for its repayment.

When the District issues long-term bonds, we will establish a desired size for the RSF of about 20% of the annual debt service. As the RSF exceeds this amount, the excess will flow back to reduce rates.

The District's Rate Ordinance also establishes a Fuel Adjustment Charge as part of electric and propane rates. This separate line item on customer billings will be adjusted as frequently as monthly to reflect differences in the cost of diesel or propane from the budgeted price.

### **Rates and Allocation of Costs Across Businesses**

The cost of the BAN borrowing needs to be allocated between In-valley electricity, propane, Out-valley and District other costs. We do this by computing how much of the borrowing each of the four categories uses. This results in the following based on expenses as of June, 2011:

<b>Business</b>	<b>Total expenses</b>	<b>Percentage</b>
In-valley Electricity	\$13,482,704	67%
Propane	\$ 2,096,951	10%
Out-valley expenses	\$ 3,698,714	19%
District	\$ 708,631	4%

In-valley Electricity and Propane businesses need to cover their costs through the revenues collected in the rates. Out-valley and District operating costs are paid for by existing property taxes (about \$271,000/year). When Out-valley is ready for construction, the District will issue another bond to cover those costs. When Out-valley is completed, the additional debt repayment costs will be included in the rates and diesel fuel expense will be replaced by lower priced power from the grid. The District expects to continue to utilize a portion of property tax receipts over the long-term to support the electric and propane enterprises and formally pledge that portion to secure the interests of long-term bondholders.

To calculate rates, we need to allocate the fixed costs (debt service, salaries, etc) across the total expected amount of energy sold. To do this we assume that 6.8

million kwh of electricity and 19.1 million cubic feet of propane will be sold on an average year. Each District customer will be charged separate rates for both electric and propane service. Should the actual usage of electricity or propane vary substantially from the assumption, rates for the following year will be adjusted accordingly and the existing rate ordinance revised to reflect the new projections.

## **Proposed Rates**

For each customer there will be a fixed monthly charge plus a cost per unit of energy consumed in the month. The fixed month charge consists of two components

- 1. New Remote-Read Meters** – In November, the District is installing new electricity and propane meters to improve the accuracy of meter reading during the winter months and eventually to allow customers to securely access their usage data over the Internet. The costs of these meters are \$2.94/month for an electric meter and \$3.20/month for a propane meter. At the end of ten years, the meters will be fully paid for and this charge will be removed from the rates. The meters can be read remotely so there will no longer be a need to estimate usage in winter when the meter cannot be physically accessed. The meters can also be read continuously. This will add a measure of safety as unusual usages patterns can be detected such as what would occur if a propane leak developed inside a home.
- 2. Base Rate/Minimum Charge** - The rates currently in use recover all costs through a usage charge per unit of energy used. The District proposes changing this to be a base fee of \$25/month (split \$20/month to electricity and \$5/month to propane) and the remainder of the costs are covered by a per unit charge for energy used. The rationale is that it costs the District money to be able to provide power – whether a home uses any power or not. In the case of electricity, this change results in \$178,000 in annual revenue coming from the \$20 monthly fee and \$3,236,000 coming from per unit charges per KWH consumed. For propane, this change results in \$26,000 in annual revenue coming from the \$5 monthly fee and \$1,604,000 coming from per unit charges per cubic foot consumed.

The revenue collected from the monthly charge will cover about one half of the fixed labor costs of operating the electricity and propane businesses. Charging a monthly fee is consistent with how the District currently charges for water and wastewater services.

The variable charge per unit of electricity or propane consumed consists of two components:

- 1. Debt Service, Operating Costs and Fuel** – The base budget for fuel assumes diesel costs the District \$3.21/gallon and propane costs \$.0557/cubic foot. In addition, the base budget includes all operating costs and debt service minus the amount collected through the monthly flat fee

mentioned above. This results in a charge of \$0.4758/kwh for electricity and \$0.084/cu foot for propane. These rates reflect actual District costs as long as the cost of diesel and propane are \$3.21 and \$.0557 respectively.

2. **Fuel Adjustment Charge** - The District proposes a standard procedure for handling the highly volatile price of fuel. The base rate assumes a gallon of diesel costs \$3.21 and a cubic foot of propane costs \$.0557. If the actual costs are above or below this number a Fuel Adjustment Charge (FAC) is added (or subtracted if lower) to the cost to accurately reflect the actual cost of fuel during the billing period.

For example, diesel fuel cost \$3.63 in June so the difference between that cost and the base cost of \$3.21 divided by the number of KWH sold in June would determine the FAC. This would have been about 2.6 cents/kwh.

The District Board of Directors will authorize the General Manager to calculate the monthly FAC at the close of each billing period and report the calculations at regular Board meetings. This will be a significant improvement over the MU billing procedure. Since the California Public Utility Commission (CPUC) regulated MU, their FAC had to be approved by the CPUC causing a delay between when the costs were incurred and when they got added to the KWH rates. That delay caused power to be extremely expensive right after the ski season and then drop in price at the end of summer. The KMPUD rates will be more stable.

## **Renewable Energy and Self-Generation**

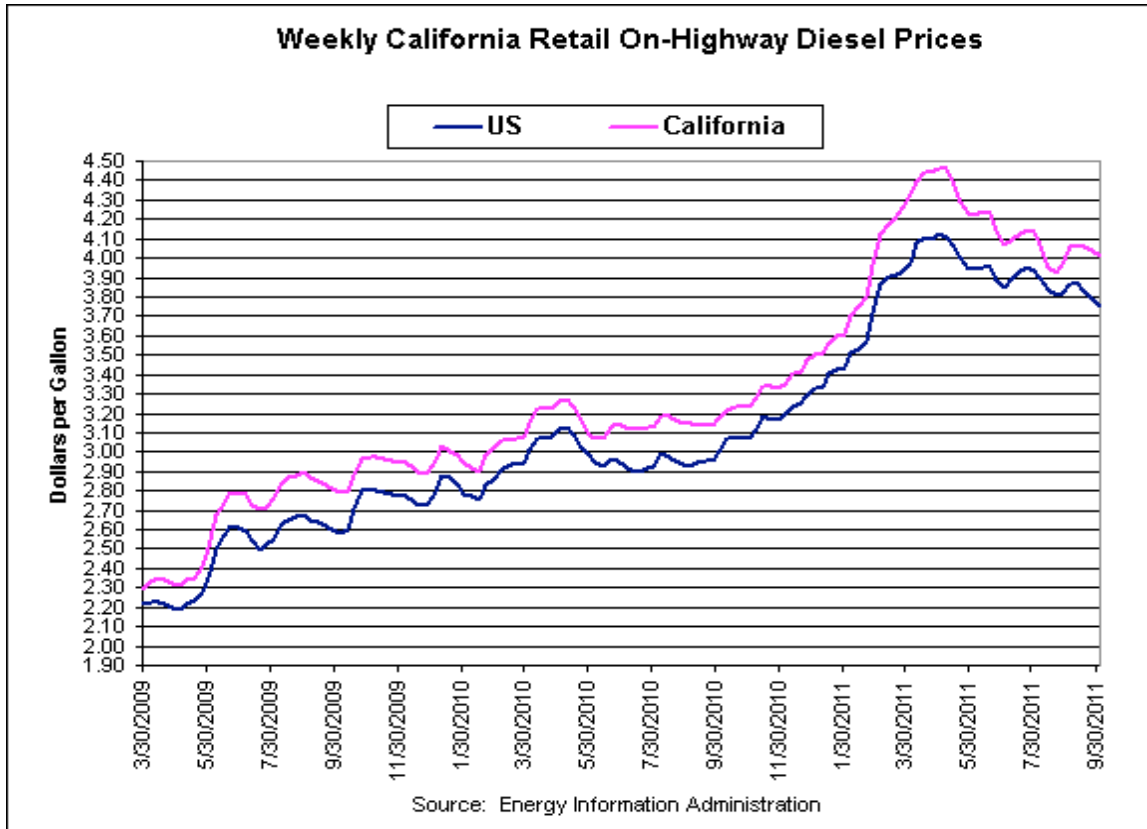
The District will credit homes and business that use solar and other forms of electricity self-generation to reduce their consumption of power. This credit will be an unsubsidized amount equal to the actual savings from the customer generating a portion of their own power. This rate will be equal to the value of the diesel saved. Current estimates for fuel assume one gallon of diesel consumed for every 14 KWH sold. Thus the bill credit will be \$.229 plus the FAC for each KWH generated ( $\$3.21/14 = \$.229$ ).

Customers who generate their own power benefit from the KMPUD grid as they consume grid power when they consume more power than they generate and they use the grid to distribute power when they generate more than they consume. In addition, all customers share proportionally in the debt incurred in building the power system.

The District is beginning the process of determining the best way to procure a minimum of 33% renewable power by 2020 as required by State law. The District is looking at options to procure renewables that will provide financial as well as environmental benefits to Kirkwood.

## **Additional Considerations**

Diesel costs have been slowly increasing over the last two years and experienced a jump earlier this year due to instability in the Middle East and North Africa. The chart below shows the average national and California costs of diesel over the last three years. Note that our cost of \$3.63/gallon in June is lower because we do not pay the road taxes included in the chart below and associated with diesel sold for transportation at the pump. A dollar increase in diesel adds an estimated 8 cents per kwh.



### Rate Consideration over the Next Several Years

The increasing cost of diesel is a reminder of why we want to connect to the grid and get to a more stable, regulated, and lower price. While it will take many years, when we pay off the debt, Kirkwood electricity prices should be similar to average prices in Northern California. We are currently approximately three times more expensive.

Our energy project will also serve properties that have not yet been built. We need to evaluate how to make sure that new properties pay their fair share of the costs.

We also need to evaluate trade-offs between paying all the debt through the electricity rates vs. a combination of electricity rates and property taxes if that results in lower overall costs for the Kirkwood community residents and businesses.

Finally, the largest long-term component of our electricity rates is the amount of borrowing and the interest rate of that borrowing. We need to address this in two ways. The first is to continue to examine all project costs and reduce the total amount of capital expenditures. The second is to improve our credit rating (currently our debt is “unrated”) so we can lower the amount of interest we need to pay to attract buyers for our bonds.

We can significantly lower our long-term interest rates by moving from an unrated bond to an investment grade rated bond. To accomplish this, we need to build our financial strength and demonstrate a successful operating history. This initial rate proposal starts us on that path. The other significant bond security feature with the potential to accomplish an investment grade credit rating is to evaluate pledging to lenders KMPUD’s ability to assess property taxes in the event that electric or propane revenues are insufficient to maintain bond debt service payments.

The two biggest variables with the cost of in-valley power will be the amount of power sold and the cost of fuel. About half of our costs are fixed. As Kirkwood grows and demand for power grows with it, we will be able to lower rates – potentially by up to 25% as Kirkwood becomes fully built out according to the “Specific Plan” approved several years ago.

The best remedy to the high – and unpredictable – cost of diesel is to connect to the grid through the Out-valley project. Power costs from out-valley will be very different:

- (-) No diesel (saves 25 cents/kwh using June rates)
- (-) Less personnel costs (powerhouse would be backup only)
- (+) Purchase power through long-term grid contracts (10 – 12 cents)
- (+) Finance costs for \$35M debt to build out-valley

While we do not know out-valley costs yet, it is likely that rates will be higher initially and less expense over the long-term.

## **Summary**

In summary, our objectives of equitably meeting the needs of the Kirkwood community for reliable and affordable power are achievable. The plan presented here keeps electricity costs similar to current costs and lowers the cost of propane. It puts KMPUD on a stronger financial footing and is expected give the District access to the bond market necessary to finance our short-term and long-term needs.