PG&E's Response
to
Sacramento County LAFCo
Regarding
SMUD's Proposed Annexation
within Yolo County

Volume 1

September 16, 2005

Pacific Gas and Electric Company®

Global Energy Decisions

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I. EXECUTIVE SUMMARY

A. Scope and Organization of this Report

This report calculates the probable cost to SMUD to (a) acquire PG&E's electric facilities within a designated area within Yolo County (including the cities of Davis, West Sacramento, Woodland and adjacent portions of Yolo County), (b) procure power to serve the area's load, (c) disconnect the area from PG&E's remaining system and connect it to SMUD's system, and (d) rebuild PG&E's remaining system to its preannexation capacity, serviceability and reliability. It also estimates (e) the non-bypassable charges that would be owed by the Yolo customers; (f) the franchise fees and property taxes that PG&E currently contributes to these cities and the County that would be lost unless made up by SMUD. Finally, this report estimates the rates SMUD would have to charge Yolo customers to pay for the annexation, and demonstrates why SMUD and its consultant, R.W. Beck (Beck), have significantly understated these costs and rates.

This report is a collaborative effort between Black & Veatch ("B&V"), Global Energy Advisors ("Global"), and PG&E. B&V is an engineering and consulting firm with vast experience in the electric and gas industries. B&V's more detailed submission is included as Volume II. Global is an energy consulting firm specializing in power procurement and management. Global's more detailed submission is included as Volume III.

This report is organized as follows:

Section I provides an executive summary, including key findings of the study.

Section II describes B&V's inventory in the area that SMUD is proposing to annex, and establishes an estimate of value (including allowances for stranded investment and severance) based on a recognized valuation

approach. It then contrasts B&V's approach and results with those reached by Beck and SMUD staff.

Section III discusses severance and stranded costs created by the proposed condemnation, as SMUD would need to separate these facilities from the rest of PG&E's system. It also describes SMUD's operations and maintenance costs, and ongoing capital costs demanded by this growing area.

Section IV describes the analysis performed by Global regarding the costs that SMUD would incur to provide power to the Yolo area. Global believes that SMUD has underestimated the power costs by several hundred million dollars, particularly in light of today's higher gas prices and current forecasts. While these are higher than prices and forecasts available at the time that Staff released its report, Staff based its power cost on prices well below the then market price and forecast. Furthermore, Global describes how SMUD's electric surcharge principles shift a significant portion of these costs to SMUD's existing customers.

Section V discusses other cost elements that SMUD would incur to serve Yolo, including non-bypassable charges and financing costs, as well as the lost franchise fees and property taxes that the cities and counties would need to replace. It also explains why PG&E's rates will not increase at the same pace as SMUD's as a result of higher gas prices.

Section VI combines all of the cost elements described in the previous chapters to estimate the total rate that SMUD would need to charge Yolo customers to ensure that existing customers do not subsidize the annexation. This rate is then compared with PG&E's rate, and shows that Yolo customers would end up paying approximately 19% more than they would were PG&E to remain the service provider. If SMUD is successful in implementing its proposed surcharge principle #3c, which would shift several hundred million dollars to SMUD's existing customers, then the Yolo <u>increase</u> would be somewhat less but still significant.

Finally, Section VII provides conclusions regarding the results of this study.

B. Key Findings

- ***SMUD's estimate of the cost of acquiring PG&E's Yolo facilities is at least $480 million too low. SMUD missed equipment and undervalued the equipment it found.***

B&V's inventory is derived from actual equipment records, verified by field checks. Its Table 8.5.2 (Vol. II, p. 81) shows equipment SMUD missed. B&V explains (Vol. II, p. 78) why SMUD's (Beck's) hypothetical computer-drawn inventory undercounted the equipment in PG&E's underground electric system. Furthermore, Case Law shows PG&E's valuation method is reasonable and that SMUD has not included elements of value courts have routinely include. (See Section 3.1 of the B&V Report).

The largest value differences are:

1. Overhead inventory. PG&E has actual records of equipment in place, which were used to develop B&V's inventory, which was field-checked for accuracy (Vol II, p. 35). Beck and SMUD Staff did not conduct a full field inventory and missed substantial overhead equipment. Diagrams in this report (Figure 1) and B&V's report (beginning on p. 116) show numerous such.
2. Rights of Way. B&V also properly includes the value of the rights of ways and easements that allow PG&E to have its equipment on private property; without these land rights, which Beck misses and Staff misses in part, SMUD would have to move the equipment.
3. Underground inventory. The inventory differences are even greater for underground equipment, because Beck/Staff depended on a simplistic computer model to draw a complex system. Their model was not programmed to pick up the details of actual underground construction. B&V (p. 115) gives examples of PG&E equipment in place that SMUD did not value.

4. Trenching and Paving. Although placing equipment underground is very expensive, PG&E has done so with a substantial amount of its Yolo equipment – about four times PG&E's system average. Yet, in their valuations, Beck and Staff do not include trenching costs. B&V's inclusion of undergrounding costs is supported by a March 2005 Navigant study of the cost of undergrounding electric utilities, and by SMUD Staff's 2005 Budget estimates (Vol. II, p. 75).
5. Substations. B&V finds that Beck/Staff failed to consider costs associated with certain substation equipment, in particular with PG&E's West Sacramento Substation and undervalued certain equipment included in their inventory (Vol. II, p. 85).
6. Line Transformers. Not only did Beck/Staff understate transformer inventory by 30 percent, they understate the capacity of the transformers that they did identify (Vol. II, p. 85).
7. Unit costs. B&V believes Beck/Staff undervalued not only the hard-to-detect underground feeders, but also the most visible structures in PG&E's Yolo system – the transmission towers, including the 237-foot lattice towers supporting major river crossings (Vol. II, p.83).
8. Valuation Basis: Another primary disagreement on value is whether SMUD can force PG&E to sell property in 2008 for the price PG&E paid for it many years earlier, further adjusted for depreciation. This is not just a debate among appraisers, but a fundamental issue of constitutional property rights. SMUD's LAFCo application takes the most aggressive possible position by assuming that PG&E would be forced to relinquish its property for the original cost that PG&E incurred, less depreciation. One might ask: Does LAFCo believe SMUD would sell its system for original cost, less depreciation?
9. Depreciation. B&V (Vol. II, p. 86) shows that Beck/Staff's simplistic straight-line depreciation method does not measure the actual economic value of the equipment and does not enable the owner to pay off its financing. B&V's present-worth method is more theoretically sound, and has been used in prior system sales

(including those supported by Beck's co-consultant, Stone and Webster) and by the State Board of Equalization.

10. Salvage. B&V (Vol. II, p. 86) shows that Beck/Staff erroneously calculated salvage cost by applying a percentage against calculated replacement cost instead of against original cost, and compounded the error by assuming that all the equipment SMUD is taking would be retired the day SMUD bought it. The result of these errors is that Beck/Staff heavily overstated the net salvage cost they deducted from the equipment's RCNLD value.
11. Going concern value. Beck/Staff developed a value for piles of equipment, but fail to recognize the value PG&E created by having customers attached, taking and paying for service. PG&E has assembled the equipment into a working electric distribution system that serves customers. Going concern value includes consideration of the value of these customers, as well as the many types of maps and records necessary for efficient operation and for customer billing. It also includes the equipment's ability to generate revenues besides sales of electricity. For instance, PG&E's transmission towers support cellular telephone antennae and fiber optic cables that earn rent (Vol II, p. 58). And recent technological innovations (Vol. II, p. 58) suggest that PG&E's distribution lines, which cover the "last mile" to the customer, will be valuable for broadband-over-powerline and automated metering.

- ***SMUD's estimate does not include facilities being added to Yolo today, and expected to be added for the next several years.***

All the valuations (Beck/Staff/B&V) value facilities in place as of December 31, 2004. However, SMUD would not acquire PG&E's Yolo facilities until at least 2008. By then, PG&E will have installed new equipment to connect new customers, accommodate growth, and upgrade reliability. In early 2005, for example, PG&E placed in service a new 45 MVA transformer bank at the Deepwater Substation. PG&E plans to spend over $40 million on capital additions in the original

annexation area during 2005-2007. Beck's and Staff's reports unaccountably do not include consideration of this value being added by PG&E (Vol. II, p. 52).

- ***SMUD underestimated, by $50 million, the cost of severing the annexation area from PG&E's system and restoring PG&E's remaining system to its preannexation capacity, serviceability and reliability.***

  SMUD's plan would strand PG&E facilities worth $36.32 million (Vol. II, p. 66) that SMUD does not account for. Furthermore, PG&E's power flow study (Vol. II, p. 67) shows shifting Yolo load to SMUD's system would require upgrades on PG&E's 230 kV facilities well in advance of the date required if SMUD does not take over PG&E's facilities. The present value (2008) of these upgrades amount to approximately $14 million. Finally, SMUD's plan to wheel power over SMUD's transmission system so that PG&E could continue serving UC Davis and Barker Slough may require equipment upgrades and fees SMUD also did not account for.

- ***SMUD's estimate of the cost of power to serve the annexation area is $950 million too low.***

  The recent large increases in the price of natural gas are well known. Gas prices are projected to remain high for the foreseeable future. But SMUD seems to be ignoring these higher prices, and the incontestable fact that its service to Yolo would be much more affected by these high gas prices than PG&E's service to Yolo. As Global points out, PG&E has substantial low-cost non-gas-fired power resources with which to serve Yolo, but SMUD does not. For this reason, SMUD's power cost to serve Yolo already exceeds PG&E's – and, more ominously for SMUD, every increase in natural gas prices worsens SMUD's annexation economics. SMUD's LAFCo Application shows *lower* Yolo power costs relative to its April 18 study, at the same time that gas prices have dramatically *increased*.

The key power cost differences are:

1. Gas costs. Staff used lower gas prices to analyze Yolo power costs than it did to support a rate increase to Sacramento customers – and it did so even though gas prices had risen in the interim. Staff's gas price estimates are well below current market prices and futures market prices, even ignoring the impacts associated with Hurricane Katrina. Global shows that using mainstream gas projections raises SMUD's cost to serve Yolo customers by nearly $1 billion above Staff's estimates.
2. Gas turbine capital costs. SMUD boldly assumes it will be able to build new gas turbine power plants, and find another (unidentified) entity which needs power during the parts of the year SMUD does not to pay half the cost. This assumption has many problems, including the fact that such deals are notoriously hard to achieve and that they require firm transmission rights for both entities. Firm transmission in SMUD's area is in limited supply, and costly, yet SMUD's numbers do not include these transmission costs.
3. PG&E's exposure to gas. SMUD responds to criticisms of its power cost projections by asserting that PG&E's power costs also increase to the same degree if gas prices increase. Global shows that this crucial assertion is mistaken. SMUD would serve Yolo with new resources. Everyone agrees 80% of the new resources will be gas-fired. PG&E, however, does and will serve Yolo with a mix of resources which includes substantial amounts of below-market, non-gas-dependent power, as well as substantial amounts of already-contracted-for power whose cost is not dependent on volatile gas prices. Global shows that PG&E's power portfolio is much less exposed to gas market prices than SMUD's Yolo portfolio would be.
4. Hedging cost. Hedging the market is a way to minimize SMUD's exposure to high gas prices. Unfortunately, hedging is not free. SMUD says it will hedge gas when the annexation is approved, but its economic projections include no hedging costs. More importantly,

hedging gas prices today cannot reduce prices below current "futures". Hedging today would necessarily lock in prices that are substantially higher than gas prices SMUD used in its analysis.

5. Cost shifts to existing SMUD Customers. Despite persistent promises that SMUD would not shift costs to existing customers, SMUD's surcharge principle #3c shifts significant costs to SMUD's existing customers. Specifically, this principle specifies that Yolo customers would only pay a surcharge for power costs in excess of those that are more than $1/mmBtu above the (obsolete) gas price forecast included in the April SMUD staff study. These amounts are higher than the costs of SMUD's existing power resources by a significant amount, and the strategy has the practical effect of blending SMUD's existing resources. (see Global, page __).

- ***SMUD made many aggressive, not "conservative," assumptions. If SMUD were to honor its 2% rate discount guarantee to Yolo customers, it would shift $621 million (NPV) to existing SMUD customers.***

PG&E uses the same discounted cash flow model as Beck/Staff to project annexation cash flows – but PG&E relies on better data on facilities costs and makes more reasonable assumptions on other cost elements. For example:

1. SMUD assumes it can acquire PG&E's assets for their book value, without providing any legal support for this assumption. In reality, before it can even begin eminent domain proceedings to take PG&E's facilities, SMUD must offer PG&E at least the fair market value of the property as determined by an appraisal. This appraisal must be supported by comparable transactions, a reproduction or replacement cost analysis, or a capitalization analysis (Cal. Government Code §7267.2) – not original cost less depreciation, or book value. Furthermore, if PG&E rejects the offer, under the U.S.

and California constitutions, the outcome of any trial must provide PG&E "just compensation," which in California is the "fair market value" of its property (Cal. Code of Civil Procedure §1263.310)(plus severance and other items).

2. SMUD assumes it can obtain power from newly constructed gas-fired facilities while paying only half their construction cost.
3. SMUD assumes it can buy gas to power Yolo cheaper than the forecast on which it based its own 2005 rate increase, and much cheaper than the current level of futures market prices for gas to be delivered in 2008.
4. In-between its April 18 study and its August 1 LAFCo Application, during a period in which gas prices that drive power costs have increased, SMUD actually *lowered* its assumption about future Yolo power costs.
5. SMUD assumes it will realize significant economies-of-scale in operation and maintenance – and not have to compensate PG&E's equivalent loss of such economies.
6. SMUD assumes it will realize O&M economies by serving Yolo customers without Yolo service yards, but does not account for the impact that the additional driving distances will have on service calls and outage restoration times.
7. SMUD assumes it can use cash contributed by Sacramento customers to buy the Yolo facilities and replace the cash with new debt without violating its pledge to protect Sacramento customers – and further assumes the new debt will be tax-exempt although the law prohibits funding acquisitions with tax-exempt debt.
8. SMUD assumes PG&E is more exposed to gas price pressure than it is, and that PG&E's rates would rise nearly as dramatically as SMUD's.

- ***PG&E made reasonable assumptions and, in fairness, did not use the errors or assumptions SMUD made in PG&E's favor.***

1. SMUD Staff overestimated franchise fees and property taxes. PG&E's analysis (Vol I, p. __) used corrected lower amounts.
2. SMUD Staff underestimated customers non-bypassable charge obligations. PG&E's analysis used corrected lower amounts.
3. Certain SMUD unit costs exceed the costs B&V believes are reasonable. These include costs for underground and overhead secondary lines. B&V used lower costs (Vol. II, p. 83).
4. B&V has, so far, valued the original annexation area rather than the larger, and therefore more expensive, new annexation area (Vol. II, p. 31).
5. B&V used 1/1/08 as the valuation and cutover date, even though SMUD itself now projects 10/1/08, without allowing any time for Resolution of Necessity proceedings, litigation or appeals. Folsom, a smaller and less complex annexation, took five years to come to trial. SMUD's original establishment took even longer.
6. B&V did not include an increment of value for the above-system-average growth potential and industrialization of the proposed annexation area.

- ***SMUD's Plan Would Hurt Sacramento Customer***s

1. It trades their cash for debt.
2. It forces them to absorb a significant amount of Yolo's power costs, in direct contravention to SMUD's claims that it would preserve SMUD's low-cost power resources for its Sacramento customers.
3. It forces them to absorb some or all of the extra costs that SMUD will incur, as it tries to fulfill a 2 percent rate break for Yolo customers.
4. It forces them to spend money to fund SMUD's pursuit of Yolo, including costs to hedge gas prices for Yolo, yet lacks an enforceable mechanism to recover the money from the Yolo jurisdictions. Therefore, if SMUD abandons the annexation, or Yolo votes it down, or the court denies SMUD's right-to-take, SMUD's present Sacramento customers will be liable for the costs incurred.

Under California eminent domain law, these costs include PG&E's fees as well as SMUD's own.

5. It weakens their control of SMUD by diluting their representation on the SMUD Board.
6. It may weaken SMUD's credit rating.

- ***SMUD's Plan Would Hurt Yolo Customers***

1. It will raise their electric rates, because it contains no enforceable rate guarantee.
2. It strips low-usage Yolo residential customers of the AB1X rate protection they enjoy as PG&E customers.
3. It denies them the benefits of automated metering.
4. It contains no enforceable mechanism to replace PG&E's local franchise fees and property taxes, so it may force reductions in local public services.
5. It subjects them to longer outage response times, because SMUD will not have local service yards.
6. It subjects them to minority status in an agency not subject to independent or State regulation.
7. It denies them beneficial State energy policies, including mandatory resource adequacy, mandatory renewables and a mandatory conservation-based loading order.
8. It denies them access to PG&E's below-market and non-gas dependent power resources, and makes their power wholly-dependent on gas-fired generation.
9. It imposes duplicate and unnecessary facilities, including a transmission line and substation PG&E would not have to build.

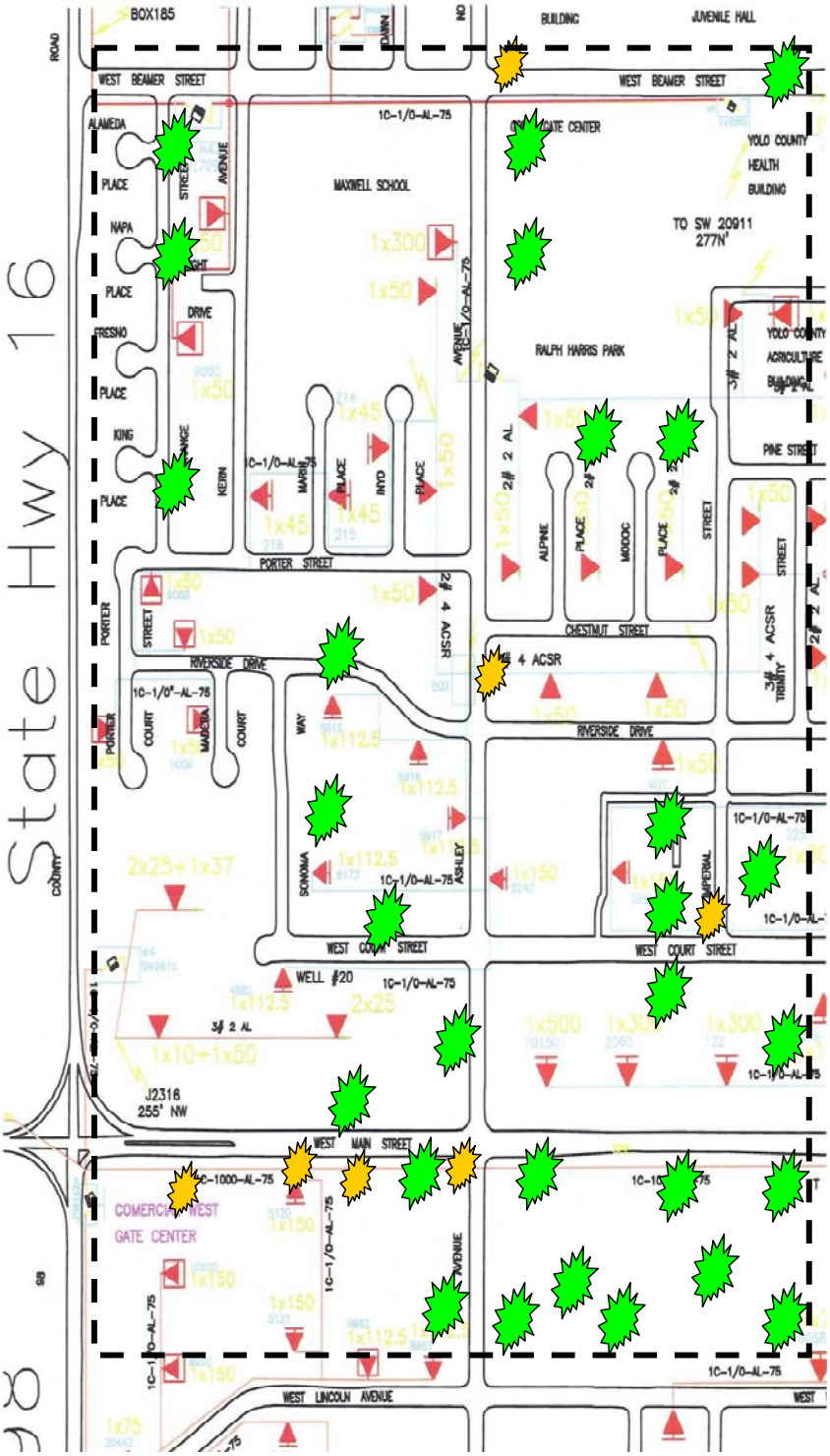
- ***SMUD's Plan Would Hurt California***

1. It balkanizes the State's transmission grid.
2. It requires duplicate and unnecessary facilities.

3. It reduces the reach of State energy policies.
4. It reduces the State’s income tax revenues.
5. It reduces federal income taxes

Figure 1

Sample Map of Missed Facilities



Map J-17- 6 Summary

28 out of 69 Transformers not identified

7 out of 11 switches not identified

3073 out of 7318 KVA not identified

SMUD map 2 I

PG&E Map

J-17-6

– – = PG&E map boundary

= Missed transformer

= Missed switches or J boxes

= SMUD identified trans.

II. FACILITIES – INVENTORY AND VALUATION

This section identifies the transmission, distribution and substation facilities that SMUD would need to acquire were it to proceed with its proposed annexation into Yolo County, and describes the valuation approach that B&V believes best reflects fair market value for those assets. Furthermore, this section compares B&V's approach and conclusions to those of Beck and SMUD Staff in their respective studies. This effort was directed by B&V, with support from PG&E staff. A more detailed discussion of the inventory and valuation, coupled with additional supporting data, is included in Volume II to this Report: "B&V's Submission to PG&E – Fair Market Value of the Yolo Assets as of January 1, 2008".

The discussion that follows is based primarily on the geographic area that was identified on SMUD's website until after its LAFCo filing on August 1, 2005, and included as part of the January 13, 2005 Beck Report, the April 18, 2005 SMUD Staff Study, the May 19, 2005 SMUD Board Resolution, and the June 17, 2005 letter from Peter Brundage requesting this report. However, the map that was included as part of SMUD's August 1, 2005 Application to LAFCo is substantially different, in that it removed approximately 10% of the land in the southern portion of the area, and added approximately 25% new land area to the north and west. In total, this results in an area that is approximately 35% different from the original representation.[1] Given the relatively short amount of time available to review the new area, we have been able to generally describe the differences that this represents in terms of facilities and value, but our estimates are subject to ongoing refinement.

A. Equipment Inventory

In our development of fair market value for PG&E's electric transmission and distribution assets in the Yolo area, we first develop a value for PG&E's

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[1] Subsequent to the completion of the B&V Report, SMUD provided an estimate of 50 square miles added (26%), and 28 square miles rounded (15%) for a total of over 40% different area.

property in service as of December 31, 2004 based on cost levels and conditions corresponding to that date. This value is based on an inventory of PG&E's property in service based on books and records maintained in the normal course of business. As described in Section B.3 below, this inventory is only a partial picture, and would need to be supplemented with the additional equipment PG&E will install up to the time when SMUD would take its assets (October 2008, per SMUD's LAFCo Application).

PG&E relies on a geographic information system (GIS) to link property data to specific geographic areas. By use of this system we are able to identify the specific circuits serving the annexation area and the specific detailed maps which show PG&E's equipment. Within the original area proposed for condemnation, we have relied on 266 detailed plat maps. PG&E maintains much of the information represented in these maps in several different databases. Based on the area described, we developed a detailed inventory of equipment in the area. A summary level listing of equipment in the area includes:

Transmission Lines:	76 circuit miles
Distribution Land and Rights:	2,300 parcels
Substation Capacity:	386 MVA
Overhead Feeders:	537 circuit miles
Underground Feeders:	354 circuit miles
Number of Line Transformers:	8,838

We relied on the asset information contained within the various databases to construct the inventory. Additionally, to ensure that the database-derived inventory represented an accurate reflection of what is actually in the field, we tested the validity of the inventory by conducting full field inspections in a number of areas. Each of the selected areas

corresponds to one of the 266 detailed plat maps within the original area. During the field verification, we relied on the detailed maps to help physically locate pieces of equipment. Once we located a piece of equipment, we added it to the inventory for that area. We compared the inventory developed from our field inspections with the one developed from the databases to evaluate the accuracy of the database inventory. Our study shows that PG&E's database inventory compares favorably with the inventory developed from field inspections. In fact, the databases more often understated the inventory, so it is probable that a full field inventory of the original area will find more equipment in use to serve customers than we identify in this report.

In contrast to the map, database and field verification approach employed by PG&E, Beck, and then SMUD staff, relied upon a field inventory for portions of the system based on a sampling, with an extrapolation to estimate the entire system. For example, Beck stated: "Extrapolation was used to estimate the total length of the low voltage network as well as the number of poles" (Beck, p. 1-16). This approach will necessarily undercount critical facilities, even were every mile of line traversed (which was not the case), since a significant percentage of the facilities are located underground. The shortfalls of this approach were clearly noted by Beck: "The actual underground system represented in the AutoCAD drawings might differ, in some cases, perhaps materially, from the actual grid." (Vol. II, p. 1-22), and SMUD staff: "The one area … where we don't have the best inventory count – because it's underground – is the number of miles of underground feeder." (SMUD's CFO Jim Tracy May 4, 2005 Strategic Planning Committee). While we certainly agree with Mr. Tracy's assessment, we also find that Beck/Staff significantly underestimate PG&E's above-ground facilities.

PG&E firmly believes that, by relying upon actual equipment records of the entire system, confirmed by in-field verification of sample areas, its inventory is much more reliable than the extrapolation approach employed by

Beck and subsequently SMUD staff.[2] Table 1 shows the key differences between PG&E and SMUD staff, using the summary information that SMUD presented on page 4 of its LAFCo Application.

[2] This should not be interpreted as a reflection on the level of effort expended by Beck, but a statement reflecting the improved reliability of our inventory based on the actual records.

Table 1

Key Corrections to SMUD's Inventory

76

60 miles of transmission lines

537

416 miles of overhead distribution circuits

354

260 miles of underground distribution circuits

375

180 miles of overhead and underground low voltage circuits

5,347

3,439 overhead transforners

2,104

1,601 pad-mounted transformers

1,387

969 sub-surface transformers

Approximately four weeks after the Beck report was released, PG&E provided a table which compared PG&E's estimates of the value associated with the Yolo assets to that of Beck. The value was organized according to over 20 different categories. In response to requests for additional information, on March 1 PG&E provided a similar breakdown for close to 90 different categories of electrical equipment (see Attachment 1). Notwithstanding the fact that this inventory was developed from the very information Beck and staff state they required in order to make an exact determination, this information provided by PG&E was either ignored or dismissed by SMUD staff when they produced their April 18 staff study, as the staff report largely relies on the more questionable elements of the Beck inventory. As shown in Table 1, the inventory developed differs considerably from actual.

In certain instances, Staff justified changes by describing how it designs its system. However, the determination of value depends upon what is actually in the field – what will actually be taken -- and not on what those facilities would have looked like had SMUD designed them. Furthermore, Staff's adjustments are selective and often internally inconsistent. For example, Staff apparently reduces the size of the conductor consistent with its design standards. All other factors being equal, reducing the size of the conductor reduces capacity, reliability and conductor life. Furthermore, Staff did not reflect in its costs the additional substations that, consistent with its design standards, would be required to allow for smaller cable sizes. Doing so would tend to offset any cost savings associated with the reduced conductor sizes.

Staff's analysis is generally limited to comparisons purportedly testing the reasonableness of its (Beck's) inventory based on the ratio of miles of primary line (underground and overhead) in SMUD's service area. We note however, Staff presents no analysis testing the reasonableness of Staff's (Beck's) <u>starting number</u> (the length of feeders) in the comparisons. In Table 2, based solely on information set forth in the Staff report, we make such a comparison.

As shown in Table 2, in SMUD's territory the average length of feeders (overhead and underground) amounts to over 75 feet per customer. Staff's (and Beck's) valuation for the area proposed to be condemned is based on about 50 feet per customer. We are unaware of any reason to believe that the average distance of feeders in the proposed area is less than the SMUD average, especially in light of Staff's observation regarding the agricultural and lightly populated character of the area. In short, Staff's estimate of value has no credibility. Based on our inventory of 537 and 354 miles of overhead and underground primary, our allowance amounts to 67 feet per customer. This allowance, though still below the SMUD system average, certainly appears more reasonable than Staff's 50 feet.

Table 2
Comparison of Primary Lines
SMUD vs. Proposed Annexation Area

Line No.	Description - Units	[A] SMUD	[B] Proposed Area
1	Number of Customers[1,2]	583,000	70,000
2	Primary Lines - miles		
3	Overhead[3]	3,036.8	416.30
4	Underground[4]	5,530.0	259.65
5	Total Primary	8,566.8	675.95
6	Average - feet/cust.	77.59	50.99

(1) Staff Report P.57 SMUD's customer base will increase 12% - 70,000 / 12% = 583,000 SMUD customer base
(2) Staff Report P.36
(3) Staff Report P.33
(4) Staff Report P.37

Another comparison of interest relates to number of poles. PG&E's count of the number of poles in the original annexation area is 18,588.**[3]** This information was provided as part of PG&E's response to the Beck study

[3] PG&E's revised count, as described in Volume II, is 18,286 poles.

on March 1 (see Attachment 1). Beck predicted 10,999. Staff maintains in its April 18 Report that Beck's estimates are essentially correct – it estimates 10,560 poles.

However, on page 34 of its report, Staff compares the number of poles per mile in the SMUD service area (35.15 – 150 feet per span) with the number that it believes to be in the proposed annexation area (25.66 – 206 feet per span). It offers no explanation as to why the number of poles per line mile in SMUD's area would be 37% greater than that within the Yolo area. Interestingly, using SMUD's span length within its own area, applied to PG&E's conductor length (537 and 134 miles of feeder and secondary conductor within the Yolo area) yields 18,610 poles, which is very close to PG&E's count.

In summary, PG&E is confident that its inventory is an accurate reflection of the facilities that are actually in the field today, given the fact that it is based on actual records and maps, and field verified on a spot basis. In contrast, the information relied upon by Beck was based on a limited field count, with extrapolation (overhead) and/or simplistic computer-based "re-creation" for the extensive amount of facilities that could not possibly have been inspected, since they are underground. Although Beck complained that PG&E had not provided it with any inventory or valuation information (which PG&E had not developed until well after Beck made this request), PG&E did provide significant information after Beck's report was released. SMUD staff, in developing its report, chose to ignore much of this information.

B. Valuation

SMUD's taking of PG&E's property is governed by California Eminent Domain Law. That law requires SMUD to pay PG&E "fair market value of the property taken" (Cal. Code of Civil Procedures §1263.310). "Fair market value" is

> "the *highest price* on the date of valuation that would be agreed to by a seller, being willing to sell but under no particular or urgent necessity for so doing, nor obliged to sell, and a buyer, being ready, willing, and able to buy but under no particular necessity for so doing, each dealing with the other with full knowledge of all the uses and purposes for which the

property is reasonably adaptable and available" (Id. §126.320(a); emphasis added.

Most valuation experts and courts recognize three general approaches to measure fair market value. These three approaches are market-, earnings-, and cost-based measures.

In connection with the condemnation of rate regulated properties, such as PG&E's electric transmission and distribution systems, courts have generally recognized use of cost-based measures, in particular replacement cost new less depreciation. Replacement cost new less depreciation (RCNLD) is a valuation method specifically approved by California statute for valuing improvements to land, such as the electric facilities here in issue (Cal. Evidence Code §820). In recent situations where PG&E had reached agreement with third parties to sell selected portions of its transmission and distribution system (e.g., to Modesto Irrigation District in 1997 and to Turlock Irrigation District in 2002), the sales price was based on RCNLD.

For the purpose of this report, we develop the value of PG&E's property SMUD proposes to condemn using the RCNLD measure. In order to develop RCNLD, we first develop an estimate of replacement cost new (RCN), and then depreciate this estimate to reflect the condition of the equipment. The result is RCNLD.

1. Replacement Cost New (RCN)

RCN is the cost today of replacing the system. To develop our RCN value, we rely on unit costs based on PG&E's Job Estimating Tool (JET). For transmission lines and distribution substations, we rely on engineering estimates of the cost to replace facilities. Where applicable, we attempt to supplement and verify the costs we use with current construction estimates and other available data. In developing our RCN value, we rely on the following key assumptions:

- Brownfield construction[4]
- A single unit composite cost for overhead conductor regardless of circuit size, based on the actual mix of cable sizes
- A single unit composite cost for underground conductor regardless of circuit size, derived from the actual mix of cable sizes
- The cost of primary pole risers are included with underground conductors
- The number of meters equal the number of electric customers (accounts) served in the area
- The number of underground services is set equal to 35 percent of the total in consideration of 40 percent of total conductor being underground as well as other factors.

In Table 3 (Column B), we summarize our determination of RCN as of December 31, 2004. As shown in this table, RCN as of the end of 2004 amounts to $439.25 million. This amount represents the cost today of constructing the PG&E property SMUD proposes to condemn in the original area. We also present RCN for the beginning of 2008 and RCNLD for both year-end 2004 and beginning of 2008. This also includes the facilities added up until 2008, As shown, RCNLD as of January 1, 2008, amounts to $382.88 million.

In addition to RCNLD, in order to determine fair market value, we must consider going concern value and the value of other assets and liabilities. After consideration of these elements, we find fair market value as of January 1, 2008, to amount to $515.44 million. After consideration of severance and stranded investment, this total amounts to $565.88 million.

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[4] Brownfield construction assumes, consistent with the alternatives available to SMUD of constructing a new system today in the area SMUD is considering condemning, that construction will encounter obstacles in place such as streets, landscaping, other utility services, etc.

TABLE 3
PACIFIC GAS AND ELECTRIC COMPANY
PROPERTY SMUD PROPOSES TO CONDEMN
ORIGINAL ANNEXATION AREA
FAIR MARKET VALUE AS OF JANUARY 1, 2008
SUMMARY

	[A]	[B]	[C]	[D]	[E]
Line		As of 12/31/2004		As of 1/1/2008	
No.	Description - Units	RCN	RCNLD	RCN	RCNLD
		$ million	$ million	$ million	$ million
	Plant in Service as of 12/31/04				
1	Transmission Plant				
2	Rights of Way	7.50	7.50	7.96	7.96
3	Transmission	34.00	22.09	33.59	20.89
4	Total Transmission	41.50	29.59	41.55	28.85
5	Distribution Plant				
6	Rights of Way	16.10	16.10	17.09	17.09
7	Substations	36.64	26.40	36.34	25.64
8	Overhead Feeders	40.44	28.28	39.71	26.98
9	Underground Feeders	184.89	153.52	192.45	151.77
10	Transformers	32.13	22.40	31.35	20.94
11	Low Voltage Circuits	6.54	4.82	6.77	4.52
12	Overhead Services	12.60	10.00	12.78	9.87
13	Underground Services	24.75	21.84	26.18	22.09
14	Meters	7.34	5.26	7.46	4.92
15	Miscellaneous Equipment	36.32	27.16	36.83	25.91
16	Total Distribution	397.75	315.79	406.96	309.71
17	RCN 12/31/04 Plant	439.25	345.38	448.51	338.57
18	Additions 2005, 2006 , & 2007			45.07	44.09
19	RCN 1/1/08 Plant			493.58	382.66
20	Going Concern Value @ 25%				123.39
21	Other Assets				20.50
22	Liabilities				(11.11)
23	Fair Market Value as of 1/1/08				515.44
24	Stranded Investment				36.32
25	Severance				14.12
26	Total				565.88

2. Replacement Cost New Less Depreciation

While today's cost to construct the property amounts to $439.25 million as of December 31, 2004, the actual property SMUD desires to condemn is not new but has been in use for some time providing service to PG&E customers. Since the property to be acquired is not new, we reduce RCN value to reflect depreciation. Depreciation represents loss in service value not restored by current maintenance associated with the consumption of assets due to physical, economic, and other factors. In connection with the valuation of utility and other assets, we routinely rely on both statistical approaches and observed condition. For this report, we have not conducted the detailed inspections necessary to reach any definitive conclusion about condition, beyond what can be assumed based on the age of the equipment. We do, however, note that nothing has come to our attention (including during the course of the field inspections) that suggests the condition of the assets does not generally correspond to the condition expected of similar property of comparable age.

In lieu of observed condition, we rely on general patterns of property retirements predicted based on the average service lives and mortality patterns PG&E uses to develop its accounting depreciation rates. Based on B&V's experience, they appear reasonable, though overall B&V believes that the service lives we use are generally less than the level a detailed study of the specific property will indicate. To the extent that the service lives used for depreciation purposes are understated, our resultant fair market value is also understated (i.e., the result is a conservative one).

In developing our deduction for depreciation, we rely on the condition percent determined for group properties as defined by the service lives and mortality patterns and age of the various properties. In developing our condition, we endeavor to distribute value equitably between the

buyer and seller. Recognizing that SMUD should finance the acquisition by issuing taxable revenue bonds, we have developed our allowance for depreciation incorporating a 6.25 percent interest factor.

As shown in Table 3 (Column C) we find that RCNLD for the subject property as of December 31, 2004 amounts to $345.38 million.

3. RCNLD As of January 1, 2008

If SMUD is indeed successful in condemning PG&E's property in this area, we estimate that, at the earliest, SMUD will not be able to take title prior to January 1, 2008.[5] To properly recognize the timing of any takeover, we adjust our December 31, 2004 RCNLD value to conditions expected as of January 1, 2008. This involves both adjusting the year-end 2004 values to beginning-of-year 2008 estimates, and importantly, including the value of facilities that PG&E continues to install in this area through the point at which SMUD would take them over.

In this regard, in Table 3 we summarize RCN and RCNLD of PG&E's December 31, 2004 plant as of January 1, 2008 (Columns D and E). To develop RCN as of January 1, 2008, we increase December 31, 2004 RCN to reflect cost level increases of 2 percent per year and reduce RCN to reflect three years' expected retirements. We forecast retirements using the same survivor curves and average service lives we use to develop condition in our RCNLD. We show in Table 3, Line 17, Column D, $448.51 million as the RCN value for the December 2004 plant as of the first of 2008.

To develop RCNLD, we adjust our RCNLD value as of December 31, 2004 by the above and to reflect the reduced condition resulting from a 3-year increase in age. We show in Table 3, RCNLD for the December 31, 2004 plant as of the first of 2008 of $338.57 million.

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[5] In SMUD's application to LAFCo, SMUD estimates October 2008. However, since SMUD's timetable does not propose to even begin pretrial eminent domain proceedings until after the November 2006 annexation vote, even this date may be ambitious. Thus our January 1, 2008 assumption is a conservative one.

In addition, PG&E will make certain capital improvements in the original area during the three year period from December 31, 2004 to January 1, 2008. These capital additions include:

- facilities to serve new customers in the area
- additions and upgrades to enhance reliability
- additions to distribution system including emergency response
- distribution preventative maintenance
- planned undergrounding of existing overhead distribution lines (rule 20A)
- relocations and rearrangements for third parties
- planned transmission line capacity projects

We show in Table 3 capital additions during the three-year period total $45.07 million. After depreciation, their RCNLD value as of January 1, 2008 amounts to $44.09 million. As shown on Line 19 of Table 3, total RCN amounts to $493.58 million and total RCNLD amounts to $382.66 million as of January 1, 2008.**[6]**

C. Additional Elements of Value

In addition to the depreciated cost of replacing the specific original area assets SMUD proposes to condemn, there are certain additional considerations, which add and subtract from RCNLD to determine fair market value. RCNLD measures the value of a given set of assets; it does not include the additional value of a viable business enterprise wherein customers are attached, taking service, and paying for service.

The courts have long held that the condemnation of utility property (such as contemplated by SMUD) involves much more than the taking of physical assets. SMUD intends to condemn the property in order to access the

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[6] Assuming that cost level increases and capital additions during the 9-month period beginning January 1, 2008, continue at the same rate as the previous three years, as of October 1, 2008, RCN amounts to $506.41 million and RCNLD amounts to $392.60 million.

customer base. More than merely taking the property, SMUD intends to take the business resulting from the assembly, ownership, and operation of the property. In situations such as this, courts have held that the buyer should compensate the owner for the value incident to operating a viable business. Courts typically refer to this increment of value as going concern value.**[7]**

Going concern value involves consideration of a number of factors. Typically, going concern allowances include: 1) the costs incurred by the owner to attract and attach the customers being served, 2) the costs and value of maps and records associated with the property taken and the customers acquired, and 3) the value attributed to use or potential use of the facilities for business purposes other than providing electric utility service. An example of this latter category includes the net revenues realized by PG&E through the leasing of space on and under its transmission towers to PCS carriers (digital wireless service), and the value of PG&E's fiber optic lines (not included in our RCNLD value). Furthermore, there is the potential for net revenues associated with using the facilities to provide BPL (broadband over power line). The American Public Power Association, of which SMUD is an active member, is promoting such use. On September 8, 2005, the CPUC approved an Order Instituting Rulemaking on BPL to clear a regulatory path for deployment of new broadband technology using electric power lines. These communication technologies (BPL and fiber) not only provide potential value as a result of additional revenue streams, they offer the potential to reduce cost, enhance customer service, and add service offerings through real-time remote metering, and two-way communication capability. As CPUC President Peevey said: "BPL has the potential to offer head-to-head competition with cable and DSL someday – and the fact that electric power lines already reach virtually every home in the state makes BPL an important tool in our effort to make broadband accessible to every household in California." Including a value for the facilities' actual and potential use to deliver broadband and other services in addition to electric

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[7] Brunswick RT. Water Dist. V. Marine Water Co., Me. 371, 59 A.537 (1904).

power is consistent with California's requirement that the fair market value PG&E receives reflects "full knowledge of all the uses and purposes for which the property is reasonably adaptable and available" (Cal. Code of Civ. Proc. §1263.320(a).

To reflect the additional value associated with these numerous considerations, we include an allowance of 25 percent of RCN as going concern value. We base this allowance on our experience, consideration of the above, and allowances found reasonable in the past by courts.**[8]**

Also incident to a taking of PG&E's property are certain short term assets for which SMUD should compensate PG&E. These short-term assets include accounts receivable and unbilled revenues for service PG&E has provided to customers but for which the customers have not yet paid. Short-term assets also include construction work in progress (CWIP). CWIP represents investment PG&E has made in improvements which are not included in the RCNLD value. Typically, in connection with the taking of utility property the buyer compensates the seller for outstanding balances for these items (as well as capital additions placed in service by the seller from the date of valuation) on the date the sale is completed.

The final item relates to liabilities incident to the sale. We are unaware of any liabilities associated with the sale of PG&E's property in the original area SMUD proposes to condemn. However, in the event SMUD takes the property, SMUD assumes the liability associated with the cost of removing facilities upon their ultimate retirement. This cost of removal will be reduced by any salvage realized. We adjust value to reflect the present worth of this potential liability. We develop this adjustment using a 6.25 percent present worth factor, the probable lives of the facilities, and net salvage values underlying PG&E's depreciation expense rates.

As shown in Table 3, after consideration of these additional elements of value, we find $515.44 million as the fair market value of PG&E's transmission and distribution properties in the original area SMUD proposes

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[8] See Nichols on Eminent Domain (14A - 14)

to condemn as of January 1, 2008. (Extending this to October 1, 2008, we find the fair market value as of October 1, 2008, to be $528.84 million.)

Incident to a taking of PG&E's property by SMUD, the value of certain PG&E property will be adversely affected. PG&E has identified about 62 miles of transmission lines which will no longer be of value to PG&E as a result of the proposed taking. In addition, PG&E installed a 420 MVA transformer in its Brighton transmission substation in 2004 at a cost of $8 million which PG&E will no longer require to provide service to its remaining customers. The RCNLD value as of January 1, 2008, of these stranded facilities amounts to $36.32 million.

As a result of a taking by SMUD, power flows will be affected in the Sacramento area resulting in overloading certain transmission lines. PG&E is entitled to compensation for the cost to upgrade such facilities. The present value of this cost as of January 1, 2008, amounts to $14.12 million

The total fair market value including stranded investment and severance as shown in Table 3, as of January 1, 2008, amounts to $565.88 million ($580.60 million as of October 1, 2008).

D. Key Differences in Value between Beck, Staff, and B&V

There are a large number of differences of significant magnitude between the value that B&V places on the electric utility property in the original area SMUD proposes to condemn, and the estimates developed by Beck and SMUD Staff. These are discussed in the following sections. To the extent Beck and SMUD base their estimates on book value, they use a method not recognized for determining fair market value in the context of a condemnation. Furthermore, as discussed in Section A above, B&V's inventory is based on actual equipment records, verified by in-field inspection, as opposed to the partial-inspection-followed–by-extrapolation approach used by Beck and SMUD staff. Finally, Beck and SMUD understate value associated with key cost items, or ignore the assets which PG&E will be installing between today and the date on which SMUD would acquire PG&E's assets several years hence. In short, the resulting

differences are quite substantial. While the Staff's RCNLD value of RCNLD $130 million exceeds Beck's $102 million value figure by about 27 percent, our value of $515 million (before consideration of stranded investment and severance) exceeds Staff's by 300 percent.

In Table 4 we summarize our reconciliation of these three values. See also Tables 8.1 and 8.2 **[9]** of the B&V report for a more detailed reconciliation.

1. Differences Between Beck and Staff

As shown in Table 4 the difference between Beck's and Staff's values relates to three principal factors. These factors are: 1) Beck's much lower unit cost of underground feeders; 2) Beck's failure to include <u>any</u> allowance for the value of underground services; 3) offset by Beck's proposed condemnation of 138 miles of transmission lines, versus Staff's 92 circuit miles.**[10]**

Beck's failure to include any allowance for value associated with underground services leads one to the question of the Beck study's overall credibility. Beck includes <u>no</u> underground services notwithstanding finding 260 miles**[11]** of underground feeders. We question the credibility of any study which claims there are no underground services in an area the size of the area SMUD proposed to condemn, much less one that assumes there are 260 circuit miles of underground distribution and 70,000 customers.

Furthermore, not only does Beck fail to include any allowance for underground services, they also include allowances for about 41,000 overhead services and meters. Based on PG&E's records, PG&E serves about 70,000 electric customers in the original area. Beck shows in Table 1-32 that indeed it actually estimated 72,300 customers in the

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[9] See Tables 9.8.1.1, 9.8.1.2, 9.8.2.1, and 9.8.2.2 of the B&V report for additional detail.

[10] 77.72 linear miles, Staff includes 18.82 circuit miles of stranded investment.

[11] We will subsequently demonstrate that Beck understates PG&E's underground lines by about 25 percent.

original area. We question how much one can rely on a study in which over 40 percent of the services (customers) are missed, especially a study supposedly based on a detailed system inspection as claimed by Beck.

Beck's allowance for underground feeders is based on a unit cost of about $108,000 per mile. This unit cost is 60 percent below Staff's unit cost of about $270,000 per mile. We will address these differences in unit costs in our subsequent discussion regarding trenching and paving.

Beck included in its valuation the cost associated with over 130 miles of transmission lines whereas Staff suggests condemning about 92 circuit miles. Staff suggests that its design requires SMUD to acquire fewer lines from PG&E and reduces the lines stranded as a result of the taking but requires SMUD to construct some additional lines. While Staff suggests that only 10.66 miles (18.82 circuit miles) are stranded under its suggestion, in reality Staff's proposal leaves 61.78 circuit miles stranded. See table 9.4.1.1 of the B&V report for a reconciliation of Staff's transmission lines with our determination of the transmission lines affected by their proposal.

TABLE 4
PACIFIC GAS AND ELECTRIC COMPANY
RECONCILIATION OF FAIR MARKET VALUE
ORIGINAL CONDEMNATION AREA
BECK, STAFF, AND B&V

Line No.	Description	[A] RCN	[B] RCNLD
		$ million	$ million
1	Beck	200.93	102.14
2	Reconciliation of Beck to Staff		
3	Transmission Lines	(22.96)	
4	Substations	(9.07)	
5	Unit Cost of UG Feeders	42.02	
6	Underground Services	24.18	
7	Other (Balance)	10.20	
8	Staff	245.30	130.34
9	Reconciliation of Staff to B&V		
10	Transmission Lines	2.29	
11	Substations	18.90	
12	Rights of Way	15.54	
13	Underground Distribution	114.83	
14	Transformers	14.78	
15	Miscellaneous	26.30	
16	Other (Balance)	1.32	
17	Total B&V as of 12/31/04 before other elements of Value	439.25	345.38
18	Other Elements of RCNLD overlooked by Beck and Staff		
19	Change in Value 12/31/04 to 1/1/08	9.25	(6.82)
20	Additions 2005, 2006, & 2007	45.07	44.09
21	Total B&V RCNLD as of 1/1/08	493.58	382.66
22	Other Elements of value overlooked by Beck and Staff		
23	Going Concern Value @ 25%		123.39
24	Other Assets		20.50
25	Liabilities (Net Salvage)		(11.11)
26	Total Fair Market Value as of 1/1/08		515.44

2. Differences Between Staff and B&V

As shown in Table 4, we identify 6 factors which account for the difference between Staff's $245 million RCN value and our value of $439.25 million (RCN as of December 31, 2004). Even though PG&E relies on RCNLD as the best measure of fair market value, we are using RCN as a basis for comparison between Staff and B&V, since it allows a cleaner comparison (i.e., differences in depreciation, discussed further below, don't blur the comparison). As we show, $114.83 million (roughly 60 percent) of this difference relates to underground distribution.**[12]** This $114.83 million difference embodies two deficiencies in the Staff's (and Beck's) RCN value.

First, Staff assumes that PG&E has 259 circuit miles of underground distribution feeders in the area (approximating the 260-mile figure developed by Beck). Based on our detailed studies, PG&E has at least 354 miles of underground feeders in the original area SMUD proposes to condemn. Of Staff's (and Beck's) $114.83 million understatement, over $25 million relates to their failure to include consideration of over 25 percent of the actual underground distribution system. In light of Beck's failure to identify any underground services, its failure to recognize the extent of PG&E's underground system is not surprising.

By far the single biggest difference between our RCN value and the Beck/Staff values is their failure to consider the cost of installing underground equipment. This oversight amounts to nearly $90 million. Cost-based measures of value are based on the cost to build a competing system because that is the condemner's alternative to condemnation. Clearly, to build a system comparable to the one in place today, streets and sidewalks would need to be torn up and repaired in order to place underground facilities where they belong –

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[12] This difference is relative to Staff. The difference between our RCN value and Beck's includes this amount plus an additional $42 million attributable to Beck's lower unit cost of underground feeders below Staff's insufficient level.

underground. Beck attempts to explain away this error by stating that the trenches were deeded over to PG&E by developers, and that they therefore have no value. This is equivalent to stating that a car that you received as a gift has no value since you didn't pay for it.

This issue raised by Beck is one of the very reasons that courts reject rate base (original cost) as an appropriate valuation approach.

> "Note here that the property excluded from rate base (but which must be included in fair value) may be significant: fully depreciated machinery still functioning and useful; valuable assets, which have been depreciated on the books, but which may have appreciated in market value; and large amounts of contributed infrastructure owned and used by the utility owner, but not included in the rate base. The importance of this point is that a utility valuation by whatever approach, premised in a regulatory rate base that excludes significant utility assets, almost without exception results in less than full or just compensation for all property taken
>
> "The fact that a utility's contributed property was not paid for by the utility makes no legal difference in the obligation of the condemner to pay fully for its taking. What may be an equitable exclusion in rate making cases, is not necessarily consistent with the constitutional requirements of the federal and states' taking clauses. Care must be taken therefore to ascertain a net income which fairly reflects a return on all property which is privately owned by the utility." Nicholson Eminent Domain 14A.06[1] Dade County v. General Waterworks, 267 So. 2d 633 (Fla. 1962).

The overall reasonableness of the unit cost of underground lines is verified by comparing our unit cost of $523,000 per mile ($273,000 conductor plus $250,000 conduit and trenching) with other information. In a March 2005 study for the Long Island Power Authority, Navigant Consulting, Inc., concluded that the costs of underground construction are estimated at ten times the cost of overhead, and for utilities the costs range from $765,000 per mile to $1,826,000 per mile. Our allowance of

$523,000 per mile certainly appears reasonable in light of the Navigant Report. Our unit cost of underground facilities exceeds our unit cost of overhead by a factor of 7.3 times which falls below the norm of ten identified by Navigant.

Other major differences between the cost levels used by Staff and those set forth herein relate to:

- Transmission Lines – Staff fails to properly quantify the transmission lines they propose to condemn, and understate the costs of the lines. This is primarily due to their failure to include allowance for the costs of tall towers required to support high voltage lines over certain river and other crossings.
- Substations – Staff fails to include allowance for equipment it proposes to condemn and understates the value of equipment it does include. Staff's shortcomings in this regard are particularly evident in relation to PG&E's West Sacramento substation, where Beck and then Staff missed SMUD of transformer capacity, the ring bus, switchgear, and capacitors.
- Distribution Rights of Way – Staff fails to include in its analysis the value of most of PG&E's 2,300 separate land rights in the original area.
- Transformers – Staff significantly understates the quantity and capacity of the line transformers required to serve customers in the area it proposes to condemn.
- Miscellaneous Equipment – Staff does not include various fuses and junction boxes in its inventory and understates the unit cost of various switches, reclosers, and capacitors required to serve customers in the area.

In short, due to various errors and omissions, neither Beck's nor Staff's determination of RCN can be used as a realistic measure of the

current cost to replace PG&E's property required to serve customers in the area.

3. Depreciation

Differences in RCN flow through to RCNLD. However, differences in RCNLD also reflect differences in the depreciation approach. Beck and Staff estimate that the overall condition[13] of PG&E's facilities is 51 and 53 percent, or that the depreciation adjustment to the RCN estimate would be 49 and 47 percent, respectively. In contrast, we find the overall condition exceeds 75 percent. The difference relates to two principal factors.

The first has to do with depreciation approach. B&V has used the present worth method, while Beck and SMUD use the straight-line method. The present worth method correctly reflects the time value of money. In essence, a pole with a 40-year life has greater present value (today) for the first 20 years of its life than today's value for the last 20. By assuming straight-line depreciation, Beck and Staff both assume that the cost of money is equal to zero, an obvious erroneous assumption. In fact, Beck's partner Stone and Webster has sponsored testimony before the CPUC on a number of occasions supporting the use of present worth depreciation. Furthermore, the State Board of Equalization uses present worth depreciation when estimating RCNLD for purpose of allocating unitary property assessments among counties.[14]

The second has to do with the manner in which Beck and Staff adjust depreciation to reflect net salvage (gross salvage less cost of removal). All other things being equal, the higher (in absolute value) the negative[15] net salvage, the more rapid the depreciation. However,

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[13] Condition percent represents the portion of original value remaining at a point in time. Condition percent is equal to 1 minus the percent depreciated.

[14] See the California State Board of Equalization's Assessment Manual and California State Board of Equalization Valuation Methods Manual.

[15] Typically for most electric transmission and distribution properties cost of removal exceeds salvage revenue, resulting in negative net salvage.

both Beck and Staff improperly calculate the effect of net salvage on fair market value in two respects. First, they improperly apply the net salvage allowance percentage included in PG&E's depreciation rates to the RCN estimate. This treatment significantly overstates net salvage because the net salvage percentages included in PG&E's depreciation rates are based on original cost, not the RCN. The percentages included in depreciation rates when applied to original cost produce an estimate of net salvage cost that will be incurred when the property is retired. However, when applied to RCN, the percentage substantially overstates the salvage value. The second error relates to the timing of net salvage. Beck and Staff develop their adjustment for net salvage as if SMUD will incur this entire cost upon takeover. In fact, SMUD will not expend these funds until later when plant is retired. By not discounting these costs to reflect the time value of money, they are substantially overstated.

4. Summary

In the above, we address differences between Beck's, Staff's, and our RCN and RCNLD values as of December 31, 2004. As we show in Table 4, our RCNLD value amounts to $386.24 million compared to Beck's $102 million and Staff's $130 million. Beck's and Staff's RCNLD values cannot be relied on because of numerous flaws including:

- Failure to include the cost (value) of placing underground equipment underground.
- Failure to include the cost (value) of a substantial portion of PG&E's equipment that SMUD proposes to condemn.
- Failure to include the cost (value) of rights of way needed to access the equipment SMUD proposes to condemn.
- Improper reduction in value due to errors in the determination of net salvage and the use of a zero interest rate.

In addition to these flaws in Beck's and Staff's development of RCNLD as of December 31, 2004, they further understate fair market value by over $170 million by failing to consider:

- Changes in value and capital additions that will occur prior to a taking by SMUD (See B&V Report Section 5.0).
- Going concern value (See B&V Report Section 6.0).
- Other assets taken (See B&V Report Section 7.0).

III. SEVERANCE AND STRANDED COSTS, O&M, AND ONGOING CAPITAL

A. Severance and Stranded Costs

This category includes those costs necessary to disconnect the transmission and distribution systems in the annexation area from the remainder of PG&E's system. It also includes costs PG&E would incur to restore its remaining system to pre-taking levels of capacity, serviceability and reliability. The value of facilities that would become stranded as a consequence of the taking is estimated, and included in the amounts set forth in Section II of this Report, and Volume II. Further, PG&E would incur costs necessary to serve the Yolo load through a different transmission route were the annexation to occur. These costs likewise are set forth in Section II and Volume II.

PG&E has estimated severance costs for distribution assets at approximately $2.4 million.

In addition, there are approximately 5 spans of transmission conductor that need to be removed in order to sever the systems. The estimated cost is less than $100,000.

Beck and SMUD Staff estimates both assumed severance equal to 1% of their estimated RCN value. Their estimates are $2 million and $2.3 million respectively, which are reasonably close to PG&E's estimates of approximately $2.5 million for severance costs.

However, if the annexation proceeds, SMUD has proposed that major PG&E customers UC Davis and Barker Slough, located outside of the annexation area, would no longer be connected to the PG&E grid. Instead, SMUD has proposed for its own convenience that PG&E would instead need to interconnect with the SMUD grid to serve these customers. PG&E has not completed its evaluation of this proposal, but anticipates that it may need to find alternate arrangements to serve these customers, thus resulting in additional costs for which SMUD should be liable.

In addition, PG&E estimates that it will incur costs necessary to reinforce various high voltage (230 KV) transmission assets that it owns that are used, in part, to wheel power to SMUD. If the approximately 350 MW of Yolo load, plus additional 50 MW of UC Davis load (since SMUD has proposed that UCD be served through SMUD's facilities) is added to the SMUD area, the power to serve this load will be flow over a different path than is presently the case. If so, facilities south of PG&E's Rio Oso Substation would become overloaded and need to be upgraded well in advance of the time required were it not for the condemnation. The net present value of these expenditures (as of January 1, 2008) amounts to $14.12 million. Allowance for these severance damages are included in Table 3.

Regarding stranded costs, PG&E has identified 6 transmission lines (or segments) which will be stranded by the condemnation as proposed. These lines total in length, 61.59 miles. The RCNLD values of these lines as of January 1, 2008, amounts to $27.84 million. In addition to these transmission lines, PG&E's 420 MVA transformer installed in its Brighton transmission substation in 2004 will no longer be required by PG&E as a result of the proposed condemnation. The RCNLD value of this transformer as of January 1, 2008, amounts to $8.48 million. Thus, the total stranded investment as determined by PG&E amounts to $36.32 million. This amount is also included in Table 3. Further detail regarding stranded investment and transmission severance are included in Volume II.

In its September 12, 2005, response to PG&E's submission to the CPUC regarding the impacts of SMUD's annexation on the remainder of PG&E's customers, SMUD relies on Beck's outdated data and misinformed analysis to rebut PG&E's observation regarding stranded costs. PG&E will respond to these claims shortly.

Non-Hardware Severance

Severing the Yolo facilities from PG&E's system would not only require construction of reinforcements and strand assets presently in service. It would also trigger certain payments and require PG&E to change certain

operations. For example, Yolo customers who have received or will have received Customer Energy Efficiency rebates presuming that they would remain PG&E customers for long enough (five years) to recover the utility's upfront investment will owe the remaining unrecovered portion of the rebate amounts. When PG&E sold certain limited facilities to the Turlock ID, TID agreed to compensate PG&E for these remaining amounts, which totaled approximately $500,000 for a system serving approximately 6,000 customers (one-twelfth the size of the Yolo area). Also, removing the Yolo customers from PG&E service would require the company to adjust meter reading routes and schedules, maintenance plans, equipment settings, and perhaps other business arrangements. We are in the process of developing an estimate of these costs.

B. Operation and Maintenance Costs

PG&E has reviewed SMUD staff's incremental cost analysis for operations, maintenance, and overhead costs. PG&E agrees that it is reasonable to assume that, on an incremental basis, the operation and maintenance costs to serve the annexation area would be somewhat lower than SMUD's average system wide O&M rate per kWh today.

However, PG&E questions whether SMUD staff's cost assumptions would permit the quality of service now enjoyed by Yolo customers, particularly outage restoration time. For instance, SMUD staff did not assume that it would be condemning any of PG&E's common plant, such as service centers,**[16]** and did not include any new service center in its annexation costs. Therefore, it is reasonable to assume that all of the Yolo customers would be served from SMUD's current service center located off Highway 50 in Sacramento. The time to restore an outage in the Yolo area would most certainly increase due to the increase in driving time. In contrast, PG&E has three service centers in the annexation area (Woodland, Davis

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[16] For the purpose of this report, we have not attempted to determine the damages associated with the reduced need for these service centers.

and Sacramento) and has the flexibility to dispatch crews from any of the three centers to the scene of any outage.

C. Ongoing Capital

Were SMUD to acquire the Yolo assets, it would then be responsible for investing in the system to replace existing equipment, add new customers, and accommodate load growth. As discussed earlier, both Beck and SMUD mysteriously excluded any such costs up to the estimated acquisition date of 2008, notwithstanding the fact that PG&E is currently investing and will continue to invest substantial sums in the Yolo assets (over $40 million in total).

Beyond the acquisition date, PG&E expects that it would have continued investing approximately $9 million per year in 2004 dollars, increasing according to load growth and inflation. This is consistent with its historical investment patterns in this area, as was communicated to Beck in response to its data request (submitted through the cities).

While asserting in text a significant need for replacement of aging infrastructure, Beck's numbers use an estimate of future capital expenditures that is actually below PG&E's recent actual and near-term planned spending. Furthermore, PG&E's capital investment in Yolo has stepped up over the past three years. The difference between PG&E's and Beck's estimates are approximately $4 million/year. Assuming this amount increases in line with the CPI over the study period and is financed with tax-exempt debt, the NPV difference is approximately $30 million.

In the SMUD staff study, Staff has assumed that the annual amounts would be almost $2 million less per year than Beck. SMUD claims that the Beck estimates are high, since Beck had assumed that SMUD would contribute all of the capital necessary to connect new customers, when in fact developers often make a contribution to these costs. While PG&E does not disagree that such an adjustment is appropriate, PG&E notes that the total costs estimated by SMUD are well below those of PG&E's past and expected future investments, and represent either an erroneous understatement of costs, or present the risk that SMUD will underinvest in

the system, thus jeopardizing reliability. Using SMUD's estimate of approximately 1,400 additional customers added per year (appendix D, SMUD Staff final report, April 18, 1005) and Beck's cost of $1720 per new customer (P 1-63 Beck Final Report January 2005), the cost of serving new customers alone would be approximately $2.4 million/year. This leaves a low amount of $0.9 million per year for replacements and renewals for the annexation area. There is no reason that SMUD's ongoing capital costs would be less than PG&E's, with the exception of the fact that SMUD would be able to finance its investments using tax-exempt debt. Capital needs to accommodate load growth should be the same for both utilities. Capital costs to hook-up new customers should be approximately the same, since both utilities have reasonably comparable line extension cost formulae for new business.

IV. POWER COSTS

A. Background

Global (aka Henwood) has been retained by PG&E to make an independent assessment of the power costs SMUD would incur to meet load that they might annex in Yolo county. In addition, Global has compared its independent forecast of such cost to similar studies performed by SMUD staff. Global's complete findings and analysis are presented in Volume III to this study: "Evaluation of SMUD's Additional Power Cost Requirements to Serve the Yolo Annexation Area".

In summary, Global believes that SMUD staff has seriously underestimated the power cost that SMUD would incur in order to meet new load it would need to serve as a result of annexing Yolo County. The implications of this underestimation are problematic for both existing SMUD customers, as well as PG&E's Yolo customers that SMUD proposes to annex. First, when applying the Surcharge Principles approved by the SMUD Board on July 14 for the proposed Yolo annexation, Global's analysis indicates that current SMUD customers would end up subsidizing Yolo customers by approximately $200 million [$100 million for gas (using MPR) plus $100 million for 50% of the capital costs]. This result would run counter to Condition 1 of the Board Resolution Number 05-05-08 (May 19, 2005) which stated "Existing SMUD customers shall be held harmless as a result of annexation of the Cities of West Sacramento, Davis and Woodland into SMUD's electric service area."

Second, based on more recent gas price forecasts produced by the California Energy Commission Staff and actual current forward market prices (which prices are not yet reflected in either Global or SMUD staff analysis), it appears the Yolo surcharge may well include additional costs associated with higher natural gas prices in excess of $1/MMbtu above the levels included in the April SMUD staff study. As a result, it looks extremely likely that Yolo customers would see a large increase (as opposed to a modest decrease)

compared to PG&E's rates, while SMUD customers are also asked to bear a portion of the higher costs. A lose-lose result.

B. Overview of Approach

Global has calculated the incremental power costs SMUD would incur in order to serve the Yolo annexation load. Global performed this analysis by estimating and comparing the cost of power to supply load for two cases: 1) a SMUD-Only Case, and 2) a SMUD plus Yolo Case. The change in power costs between these two cases represents the incremental costs SMUD would incur to serve the Yolo annexation load.

The analysis was performed utilizing a resource planning approach where least-cost generation resources are added to meet load and reliability requirements. The cost of power is then calculated based on this resource build-out. The resource planning approach is the accepted methodology employed by utilities and municipalities in order to evaluate the economics of serving load.

Global examined SMUD's existing supplies and loads (without Yolo Annexation) to determine if SMUD has surplus power to make available to Yolo. It is clear that SMUD would need to add new resources by 2008 just to serve its current SMUD customer loads. SMUD currently has no excess supply to serve Yolo load. In any event, SMUD has previously stated that it would not assign its existing resources (currently dedicated to serve existing SMUD customers) to Yolo load since this would result in existing SMUD customers subsidizing Yolo customers. Any such reassignment of existing resources would result in SMUD having to acquire additional, higher cost, new resources for existing SMUD customers since SMUD does not have surplus capacity.

It appears that in the year 2008, without adding Yolo load, SMUD would need approximately 900 MW of new capacity (over and above the 500 MW that SMUD would be getting from the Consumnes Plant that is expected to come on line in 2006) to meet its peak load plus provide a 15% Reserve Margin (a typical reserve level needed to assure Resource Adequacy). It is not clear where SMUD would be getting this 900 MW of new capacity that is

needed simply to meet existing SMUD customer load in 2008. In its June 2005 Application to the Federal Energy Regulatory Commission (FERC), SMUD has requested the right to build a new 400 MW pumped storage project (the Iowa Hill Development) to help meet its future load needs. SMUD has indicated that this project may be completed by the year 2015. If approved and built by 2015, this project would provide less than 50% of the new capacity SMUD would need in 2008 in order to meet demands of existing SMUD customers. There is still a need for SMUD to acquire another 900 MW of peaking capacity to meet existing SMUD customer loads in 2008. It should be noted that the Iowa Hill pumped storage project would, itself, be a net consumer of electricity because of the need to pump water to the upper reservoir in off-peak hours (in order for there to be water available to generate 400 MW of capacity in peak hours). In other words, while the Iowa Hill Pumped Storage project would provide 400 MW of capacity, it would be an additional energy load the SMUD would need to serve upon its completion in 2015.

In addition to needing to find 900 MW of new resource by 2008 to meet existing SMUD customer load, SMUD would need to acquire another 450 MW of new capacity by 2008 to meet Yolo county load. This 450 MW of new capacity would meet Yolo 2008 peak load plus a 15% reserve margin on the peak load. A 15% Planning Reserve margin is used in California to ensure Resource Adequacy (meaning the power system can continue to provide adequate supply even if certain resources experience forced outages, electric demand comes in higher than expected, etc.). SMUD indicates it intends to meet 20% of the Yolo energy load with renewable resources. SMUD does not currently have a specific plan for meeting the Yolo peak and energy load. Rather, SMUD has merely stated “Following the Yolo territory election addressing annexation, SMUD would acquire energy resources to serve the Yolo Customers and to the extent reasonable and prudent would fix the cost of all or a portion of the energy resources.”

Global has examined the new power supplies that would likely be the least cost resources that SMUD can acquire to provide a reasonable power supply to meet Yolo load.

It appears that the best alternatives that SMUD has for new supply to meet Yolo power needs is new natural gas fired generation (either SMUD-owned or purchases from third party owners of these facilities). Natural gas fired generation is, relatively speaking, environmentally clean, easier to permit, quicker to build, and involves lower capital costs per KW of capacity than other types of generation. Most new generation built in the United States in the last 5 years has been natural gas fired generation. In addition to this natural gas fired generation, 20% of the Yolo energy load is assumed to be served with renewable generation, per SMUD's pledge that it would meet this target by 2011.

There is some ability for SMUD to capture efficiencies by combining the existing SMUD loads and resources with new Yolo loads and new resources acquired to meet those loads. In order to include these efficiency gains in our analysis, Global has performed hourly chronological dispatch analysis of the SMUD system before annexation and the SMUD system augmented by new Yolo loads and supplies. The difference in the power cost between these two possible futures (SMUD alone and SMUD including Yolo) yields the incremental cost of meeting Yolo load when capturing the efficiencies gained by combining the two areas.

C. Key Input Assumptions

Global used its portfolio analysis model to determine the incremental power cost that SMUD would incur to meet Yolo load. The model is an hourly chronological economic dispatch model, dispatching resources hourly to meet loads. In addition to meeting hourly loads, the model calculates Operating Reserve requirements and dispatches resources to most economically use the resources to meet the combined hourly load and operating reserve requirement.

Global first ran its model to reflect power cost of SMUD meeting only its existing SMUD load over the next 20 years. Next, Global re-ran the model when increasing the SMUD load by the Yolo load and adding the new supplies assumed to be acquired to meet the added Yolo load (per the discussion below).

The following are the key input assumptions used in the analysis:

- Yolo hourly load profile: It appears that this input is not controversial. Global and SMUD used essentially the same data for this assumption.
- Planning Reserve Margin: It appears that this assumption is not controversial. Global and SMUD both assumed 15 percent.
- Capital Cost of new gas fired generation: It appears that this assumption is not controversial. Global and SMUD used the same assumption regarding the cost for new generation. However, SMUD staff assumed that some unidentified third party would pay 50% of the capital cost for gas fired peaking units. Global did not make this 50% assumption because we do not believe it is a credible assumption. There are numerous existing projects that would like to have such payments from third parties, but are unable to find counter-parties willing to pay these costs.
- Availability and Price of Spot Power: The price of spot power is closely tied to the price of natural gas. Global has run its fundamental-based analysis of power markets to forecast spot market electricity prices. When running these models, Global has used the same natural gas price forecast being used to forecast the cost of running SMUD gas fired resources. This Global forecast does not appear to be controversial. SMUD will interact with the market at spot prices on a day to day basis to optimize its power cost economics. This is true whether or not SMUD annexes Yolo. Global's model analysis reflects this interaction in both the SMUD only case and the SMUD plus Yolo case.

- Cost and location of new sources of renewable generation: While SMUD has stated that it will serve 20% of the Yolo load with renewables by 2011, SMUD has not identified where it would locate new renewable supplies. Permitting renewable resources has proven to be problematic. Good sites in California have been well picked over. It is generally felt that new renewable supplies would command a premium in price over the best available non-renewable supplies. New renewable sites often face very high property or royalty costs from landowners. New transmission lines are generally needed for moving new renewable power production from the site to the load. For purposes of this analysis, Global has, like SMUD Staff, assumed that the renewable sources for serving Yolo load would cost $5/MWh more than the natural gas fired generation.
- Cost of natural gas that would be used in these power plants: This is the most critical input assumption. Global used a forecast made in early 2005 by the California PUC (termed the market price referant, or MPR, forecast). SMUD staff used an earlier and lower forecast. Since early 2005, natural gas prices (and gas price forecasts) have continued to go up. Consequently, Global has shifted its reliance to the more recent CEC staff gas price forecast. Table 5 indicates differences in natural gas price forecasts.

Table 5

Recent Gas Price Forecasts vs. That Used by SMUD

Year	SMUD gas price forecast (nominal $/MMBtu)	Global/MPR gas price assumption (nominal $/MMBtu)	CEC Staff forecast June 2005 ($2004/MMBtu)	CEC Staff forecast June 2005 (2.2%inflation) (nominal $/MMBtu)
2008	4.92	5.3	6.75	7.36
2009	4.81	5.51	6.85	7.64
2010	4.89	5.68	6.75	7.69
2011	5.10	5.78	7.60	8.85
2012	5.12	5.77	8.50	10.12

There exists an active futures market for natural gas with sufficient trading volumes in the next few years so that one can get a good indication of what the "market" believes natural gas prices would be. As of August 29, 2005, the NYMEX natural gas futures prices are shown in Table 6 below.

Table 6

NYMEX Gas Futures

Year	Gas Price
2006	10.09
2007	9.05
2008	8.39
2009	7.88

In effect, natural gas prices have "gone through the roof." At its May 19 meeting, SMUD Board President Bill Slaton stated:

> "If (natural) gas prices go through the roof, SMUD would raise its hand to Yolo voters and say, 'We've got a problem,'" (See Sacramento Bee article dated May 20, 2005).

Now is probably a good time to recognize this serious problem.

D. Results of Analysis

Using the aforementioned, more recent, CEC staff gas price forecast, Global's simulation results show that it would cost SMUD $2.25 billion in wholesale power costs to serve the Yolo annexation load for the 20-year study period from 2008 through 2027.**[17]** On a levelized $/MWh basis, the incremental cost of power to serve Yolo's load from 2008 to 2027 is $122/MWh.**[18]** Global's analysis of the power costs needed to serve the proposed Yolo annexation load using the CEC staff's gas price forecast is $953 million higher than the estimate made by SMUD staff as indicated in the Table 7 below.**[19]**

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[17] Using the aforementioned MPR gas price forecast, Global's simulation results show that it would cost SMUD $1.49 billion (NPV) in wholesale power costs to serve the Yolo annexation load for the 20-year study period from 2008 through 2027., This is $187 million higher than the estimate made by SMUD Staff. On a levelized $/MWh basis, the incremental cost of power to serve Yolo's load from 2008 to 2027 is $80.56/MWh.

[18] A levelized basis is used to represent a stream of different costs over a 20 year time period with a constant number of that same time frame, both streams having the same present value. In other words, a stream of $122/MWh every year for the period 2008-2027 has the same present value (using a 6% discount rate) as the stream of numbers in the right column of the table.

[19] The annual power costs shown in this table are slightly different than those shown in PG&E's pro formas later in this report. These differences, which are not material, are due to Global using slightly outdated sales figures, whereas PG&E's sales figures exactly match those used by SMUD staff.

Table 7

Comparison of Global/CEC and Staff Power Cost Forecasts

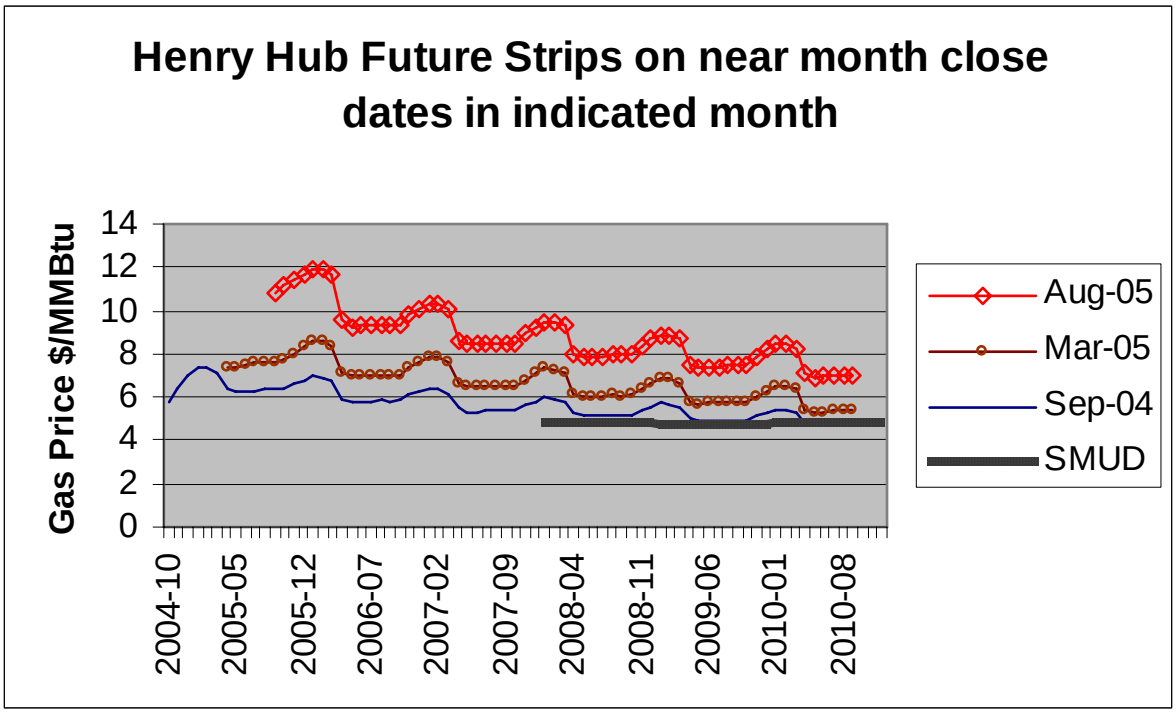
Power Costs to Serve Yolo Load ($ 000)		
Year	**CEC Gas - Global**	**Staff Report**
2008	$127,680	$84,708
2009	$138,639	$85,308
2010	$139,459	$88,093
2011	$157,467	$92,378
2012	$180,903	$94,544
2013	$184,454	$100,193
2014	$177,120	$104,100
2015	$196,618	$107,907
2016	$207,082	$112,632
2017	$209,547	$116,587
2018	$217,156	$121,969
2019	$209,789	$125,417
2020	$215,348	$130,533
2021	$222,270	$136,009
2022	$231,164	$142,183
2023	$288,586	$148,258
2024	$248,112	$152,778
2025	$258,506	$160,331
2026	$320,135	$164,107
2027	$337,665	$173,353
NPV (08-27)	**$2,253,398**	**$1,299,782**
Difference	$953,617	

The primary difference in these two forecast costs can be attributed to (a) the difference in the forecast price of natural gas and (b) the SMUD staff assumption that some unknown third party would pay for 50% of the capital cost of the gas turbines needed to serve Yolo load. Without a strong indication from a third party that it would pay for 50% of the capital cost of the gas turbines, Global believes it is not prudent to assume that such a party would be found. Further, as discussed above, the gas price forecast used by Global is quite low in comparison to the view today of future natural gas prices. It would not be prudent to make a decision on the even lower natural gas price forecast used by SMUD staff.

Global also compared the SMUD staff forecast to another, more recent, SMUD staff power price forecast that was included in its April 2005 report to the SMUD Board. It seems odd that SMUD used a more recent (higher) natural gas price forecast for purposes of indicating a need to increase rates for existing customers while, at a later date, using an older (lower) natural gas price forecast for purposes of Staff's April 18 report on the cost of serving Yolo load. Figure 2 shows forward price curves from September 2004, March 2005, and August 2005, for the 2005 – 2010 time frame, compared with SMUD Staff's estimates for the 2008 – 2010 time frame.

Since that time, despite continuing increases in natural gas prices, SMUD has made a filing with LAFCo that shows even a lower power cost forecast. As of this writing, SMUD staff has declined to provide to Global any analysis showing the basis for this reduction. If Global was to compare its forecast with SMUD staff's LAFCo forecast, the difference in power costs would be even larger.

Figure 2


Henry Hub Future Strips on near month close dates in indicated month
Gas Price $/MMBtu
14
12
10
8
6
4
2
0
2004-10
2005-05
2005-12
2006-07
2007-02
2007-09
2008-04
2008-11
2009-06
2010-01
2010-08
Aug-05
Mar-05
Sep-04
SMUD

E. Costs to SMUD and Yolo Customers

This section discusses the implications of the results described above, in light of the Surcharge Principles approved by the SMUD Board on July 14 for the proposed Yolo annexation. It is clear that SMUD has substantially underestimated the cost of providing power to the Yolo area. Based on Global review of Principle 3c of the July 14 Surcharge Principles, which relates to power costs required to serve the Yolo load, Global believes current SMUD customers would end up covering a significant share of these additional costs, by subsidizing Yolo customers by approximately $200 million (using MPR forecast; $100 million gas costs + $100 million associated with 50% of the capacity cost) or $250 million (using CEC forecast). This result would run counter to Condition 1 of the Board Resolution Number 05-05-08 (May 19, 2005) which stated "Existing SMUD customers shall be held harmless as a result of annexation of the Cities of West Sacramento, Davis and Woodland into SMUD's electric service area."

Furthermore, based on recent gas price forecasts produced by the California Energy Commission staff and actual current forward market prices, it appears the Yolo surcharge may well include additional costs associated with natural gas costs in excess of $1/MMbtu above the levels included in the April 18 SMUD staff study. As a result, it looks extremely likely that Yolo customers would see a large increase (as opposed to a modest decrease) compared to PG&E's rates.

1. Implications for SMUD Customers

Principle 3c of the Proposed Terms and Conditions for LAFCo Application reads:

> "Following the Yolo territory election addressing annexation, SMUD would acquire energy resources to serve the Yolo Customers and to the extent reasonable and prudent would fix the cost of all or a portion of the energy resources. In fixing the cost of the energy resources, if the forward price of natural gas is more than $1 per MMBtu above the natural gas price assumed in the April 2005 SMUD Staff Assessment

and Recommendation (SMUD Staff Assessment), the Surcharge Amount shall be increased to include the impact of natural gas prices (in excess of the assumed price plus $1 per MMBtu) on the estimated economic benefits of the annexation."

Global's April 28, 2005 letter to Jim Tracy stated that fully blending the SMUD and Yolo power costs would cost current SMUD customers approximately $211 million (NPV) over 20 years. This number reflected the 2005 CPUC Market Price Referent (MPR) gas price (published by the Energy Division on February 11, and adopted by the Commission on July 21), and was derived by comparing the per-unit cost of power for meeting SMUD-only load with per-unit cost of power for meeting SMUD-plus-Yolo load. Global then multiplied the SMUD-only load times the increase in power cost to derive the total shift in costs to be borne by current SMUD customers.

The gas price forecast used in this earlier calculation averages $0.67/MMBtu higher than the gas price used in the SMUD staff study. If the gas price were $1/MMBtu higher (rather than $0.67 higher), the cost shift to current SMUD customers would be higher by approximately $25 million. As discussed below, it appears likely that this $1/MMBtu threshold would be triggered. Thus, based on today's accepted natural gas price projections, Principle 3c would impose a total cost on current SMUD customers of $200 million (MPR forecast) or $250 million (CEC forecast). This is significantly higher than the estimated $91 million "economy of scale" savings staff has projected. Furthermore, this estimate ignores the costs associated with Principle 3c's requirement to fix the costs of energy resources once the Yolo election is over. Fixing future gas costs would not come without a cost, and if SMUD ultimately chooses to not proceed with the annexation, these hedging costs would be borne by current SMUD customers.

2. Implications for Yolo Customers

The April 2005 SMUD Staff Assessment relies on a gas price forecast that is outdated and very low in comparison to gas price indicators available today. The SMUD staff forecast assumed gas prices would be less than

$5/MMbtu in 2008 (in nominal dollars). It is somewhat puzzling that SMUD would continue to rely on a forecast developed in September 2004 (by Global, in fact), when the SMUD Board Finance Committee considered more current gas price forecasts in its November 9, 2004 meeting to set the context for a 6% rate increase to its current customers.

Today, however, the NYMEX future strip for gas delivery in 2008 is above $8/MMbtu. The California Energy Commission Staff Report dated June 2005 forecasts that gas prices for delivery to SMUD would be approximately $6.70/MMBtu in 2008 (see Figure 5-5, p. 45). Since this is expressed in 2004 dollars, an assumed 2% annual inflation results in $7.25/MMbtu in nominal dollars, or an increase of over $2.25/MMbtu over the SMUD staff estimate. Based on these indicators, unless the market turns dramatically, the $1/MMbtu trigger in Principle 3c would be surpassed, and would result in higher prices to Yolo customers.

Using the CEC forecast as a basis for estimating the amounts above the $1/MMbtu trigger, Global has estimated the total additional costs to Yolo customers as in excess of $700 million ($950 million total less $250 million carried by SMUD customers). Holding everything else equal, this would go well beyond eliminating SMUD staff's estimated 2% savings, and in fact end up setting rates to Yolo customers significantly above PG&E's rates.

V. NON-BYPASSABLE CHARGES, FINANCING COSTS, FEES AND TAXES, AND PG&E'S RATES

A. Non-Bypassable Charges (NBC's)

Since the California legislature enacted Assembly Bill 1890 in 1996, PG&E's rates have included a number of non-bypassable charges (NBCs) designed to recover the costs of stranded generation, nuclear decommissioning, and (if the customer is residential or small commercial) rate reduction bonds. More recently, a number of new NBCs have been added to recover energy crisis-related power purchase costs incurred by the California Department of Water Resources (DWR), and costs associated with the energy recovery bonds established by the PG&E bankruptcy decision. For the most part, these NBCs would apply to existing and new customers within the Yolo annexation area. As noted above, these costs are included in PG&E's rates today. However, they are non-bypassable and thus would be owed as a separate "departing load" charge by Yolo customers were they to take service from SMUD (or any other provider). Thus the NBCs are appropriately included as costs in annexation *pro formas*.

The following NBCs are in PG&E's rates today:

- DWR bond charge (DWRBC) – recovers past undercollections of DWR procurement costs, initially paid out of the state's general fund and later repaid from the proceeds of DWR's bond issue;
- DWR power charge (DWRPC) – recovers DWR's going-forward uneconomic power contract costs;
- Competition transition charge (CTC) – recovers the above-market costs of PG&E's state-mandated contracts with Qualifying Facilities, as well as employee transition costs (the so-called "tail" CTC);
- Energy cost recovery amount (ECRA) charge -- recovers the costs associated with the energy recovery bonds established by the PG&E bankruptcy decision;

- Public purpose program charge (PPP) – recovers the costs associated with PG&E's public purpose programs (e.g., low income rate discounts, energy efficiency programs);
- Nuclear decommissioning charge (NDC) – recovers the costs of decommissioning PG&E's two nuclear power plants; and
- Transition trust amount charge (TTAC) – The TTAC recovers the cost of certain rate reduction bonds and is only applicable to residential and small commercial customers;

The CPUC has previously determined that the PPP charge does not apply to customers who depart to take service from a publicly-owned utility like SMUD; thus that charge would not apply and is not included in PG&E's *pro formas*. In addition, the TTAC would expire in 2007 and thus has no impact on the economic feasibility of SMUD's proposed annexation. Finally, in a series of recent decisions issued in 2004 and 2005, the CPUC determined that limited exemptions from the DWRPC and the ECRA charge are available to a portion of sales in the Yolo annexation area. However, all other NBCs would apply to all Yolo annexation sales.

The DWRPC and ECRA exemptions available to sales in the Yolo annexation area are governed by four Commission decisions, two issued at the end of 2004 (D.04-11-014 and D.04-12-059) and two issued in the summer of 2005 (D.05-07-038 and D.05-08-035. These decisions prescribe the obligations of two types of departing load customers: (a) transferred load – existing PG&E customers that depart to take service from a publicly-owned utility (POU); and (b) new load – new customers that locate in PG&E's service area but come to take service from a POU.

For transferred load customers, the Commission decisions specify that limited exemptions from the DWRPC are available to a portion of sales in the proposed annexation area. Specifically, 38.8 GWh/year of the sales in the City of Davis (approximately 10 percent of total Davis sales) are eligible for an exemption from the DWRPC. This amount corresponds to the sales forecasted to be lost by PG&E in its August 2000 Bypass Report. In addition

to this very limited exemption, SMUD may also apply for any "left-over" DWRPC exemptions that are not utilized by the POUs that were in the Bypass Report. Thus SMUD may be able to obtain some additional DWRPC exemptions, although it would have to compete with other entities (e.g., SSJID, Hercules, etc.) for these exemptions which would be allocated by the CPUC on a first-come, first-served basis.**[20]** Transferred load sales are not eligible for ECRA exemptions.

The Commission decisions would also grant a DWRPC exemption for any new load served by SMUD in the Yolo annexation area, although this exemption is limited to 80 MW of total load served in the aggregate by all POUs in PG&E's and Southern California Edison's service areas (excluding the POUs that were included in PG&E's Bypass Report). Moreover, any new load eligible for a DWRPC exemption is also eligible, per Senate Bill 772 (enacted in 2004), for an exemption from the ECRA charge.

PG&E's pro formas included all applicable NBCs as line item costs, under the assumption that SMUD would pay PG&E on behalf of the existing and new Yolo customers. Each NBC was forecasted over the study period taking into account likely year-by-year charges and expected expiration dates.

Like PG&E's analysis, the SMUD Staff Report correctly treats NBCs as a line item cost in its *pro formas*. While the Staff Report describes its NBC estimates as "conservative," they are in fact merely reflective of the decisions reached by the CPUC at the end of 2004 regarding the applicability of various NBCs to existing and new departing load customers who come to take service from a publicly-owned utility. That having been said, PG&E has run a sensitivity to determine the financial impact were SMUD to receive left-over exemptions for transferred load associated with the DWRPC.

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[20] Due to the uncertainty associated with how left-over DWRPC exemptions will be allocated and to whom, PG&E's base case *pro formas* assume that SMUD does not receive these exemptions. However, as noted below, PG&E has also run a sensitivity case assuming SMUD receives left-over exemptions.

B. Financing Costs

In order to acquire the Yolo facilities, SMUD would need to issue new debt. Although Beck grossly understated the costs of acquiring PG&E's facilities, it correctly assumed that SMUD would need to issue long-term taxable debt to acquire them. It assumed a thirty-year borrowing rate of 6.25% for taxable debt, which appears reasonable in light of today's borrowing costs, although it remains to be seen whether it will be achievable if and when SMUD finances the acquisition. Beck also built in an assumption that SMUD would need to borrow first year's principal and interest in order to establish a reserve and achieve a reasonable borrowing rate.

However, SMUD staff has subsequently taken several different tacts at reducing its assumed financing costs in ways that raise questions regarding whether the assumed borrowing costs will bear any reasonable relationship to the costs SMUD would actually occur if and when it acquires the Yolo assets. In its April 18 Report, SMUD Staff generally accepted the Beck cost for long-term debt of 6.25%. However, instead of borrowing additional amounts to establish a reserve fund, it assumed that rates would be set at a level to recover 130% of the debt payments with the additional "equity" amounts used to partially finance capital investments in subsequent years (and, in so doing, reduce the amount of non-taxable borrowings it would otherwise have to make each year to cover expected capital investments).

But, as part of its sensitivity analysis in the April 18 study, and now in its more recent LAFCo filing, staff has attempted a "smoke-and mirrors" illusion to create the appearance that it can reduce its borrowing costs dramatically. The estimated reduction over the 20-year analytic time-frame is approximately $50 million, although it is difficult to determine with specificity since SMUD has not provided any details about its financing scheme.**[21]**

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[21] Unlike the April 18 Report, which (in Appendix G) contained details about how its at-that-time proposed financing would work, SMUD's LAFCo filing contains no such details. Rather, the "documentation" in the LAFCo filing consists of a single pro forma (in Attachment L) which shows only the stream of overall debt service payments, and gives no information about the levels and timing of amounts borrowed or even a breakdown of the taxable and non-taxable debt service payments.

But there are serious questions regarding their legality and/or viability of SMUD's new financing scheme.

SMUD staff proposed, as a "sensitivity case" in its April 18 report, financing the acquisition of PG&E assets by cross-subsidizing the capital needs of the Yolo electric system with lower cost, tax-exempt debt from the existing SMUD utility operations. SMUD specifically described this approach as follows:

> "SMUD has sufficient annual cash flow to invest in the Yolo electric system to avoid financing the acquisition with taxable debt. If SMUD were to invest cash flow in the Yolo electric system, cash flow would not be available to invest in SMUD's existing capital requirements. However, new tax-exempt debt could be issued to cover current capital needs. The net effect of investing existing cash flow in the Yolo electric system is to displace taxable debt with tax-exempt financing, lowering the cost of SMUD's debt service. In addition, SMUD's existing debt portfolio includes some variable rate debt at lower cost than fixed rate debt. Assuming that SMUD's new financing to cover the value of the Yolo assets will include some variable rate debt further lowers SMUD's debt service cost."

In a recent news article in the *Sacramento Bee*, the Chief Financial Officer of SMUD indicated that SMUD believes this approach is lawful and could avoid the prohibition in federal law. Ironically, SMUD raised rates to its existing customers earlier this year to generate the cash that it now claims is "available" to support the acquisition, and which it now believes it can replenish using tax-exempt debt.

Without further analysis, Staff actually elevated this scheme as its reference case in the LAFCo Application. SMUD's proposal seeks to circumvent the taxable debt requirement by financing the acquisition of PG&E assets using a combination of both tax-exempt and taxable financing, using cash flows from existing SMUD utility operations (which rely on tax-

exempt debt) to finance the capital needs of the Yolo electric system. SMUD staff has openly stated that the purpose of this financing structure is for, "displacing taxable debt with tax exempt financing, lowering the cost of SMUD's debt service."

Finally, SMUD's reliance on commercial paper to finance part of the transaction places the costs of borrowing at great risk to short-term fluctuations in interest rates. The Federal Reserve has been raising the interest rate on overnight bank loans, leading to increases in other short-term interest rates, such as those for commercial paper. Reliance on commercial paper to finance long-lived assets is risky, since interest rates can move significantly over a year or two. The variable rates today may increase to levels higher than today's fixed rates on 30-year bonds. While the use of commercial paper may give the appearance that costs are lower, if interest rates increase SMUD customers may pay far more in the future.

For all these reasons, PG&E believes SMUD's new, largely undocumented, financing schemes are not feasible. Consequently in our analysis we have employed the same assumptions used in the April 18 SMUD Staff study, assuming rates were set to recover all costs including 130% of debt service costs.

C. Franchise Fees and Property Taxes

This section discusses Franchise Fees and Property Taxes contributed by PG&E that would need to be replaced were the SMUD annexation to proceed. Otherwise, critical services supported by these taxes and fees would be jeopardized. Not discussed, however, are the state and federal property taxes also contributed by PG&E. These taxes also support important services, and there are no proposals to replace them. PG&E estimates these foregone contributions at $75 million (NPV over the 20-year time frame).

1. Franchise Fees

SMUD Staff included an in-lieu of franchise fee estimate to evaluate the PG&E vs. SMUD alternative. However, SMUD staff did not specify in its report, or in its LAFCo Application, whether SMUD plans to add a utility tax (which would need voter approval in each annexed jurisdiction) to make up the loss in franchise revenues. Franchise fee revenues go directly to the cities in the annexation area and to Yolo County for the unincorporated area. Cities outside the annexation area would be unaffected.

SMUD staff accepted Beck's assumption that franchise fees are equal to 1.5% of retail revenue. This methodology resulted in an estimate of $1.71 million for 2008 based upon expected sales growth.

PG&E paid approximately $1.22 million in franchise fees to Davis, West Sacramento, Woodland and the original Yolo County annexation area in fiscal year 2004. This fee is based on a fixed percentage of the gross receipts in the cities (1% for West Sacramento and Davis and 0.5% for Woodland). In the unincorporated area, franchise fees are based on the number of franchise miles multiplied by a fixed rate per mile. Overall, this estimate results in 0.77% of the gross revenues for the annexation area. This methodology results in an estimate of $1.38 million for 2008, which is $330,000 less than Staff's estimate.

Table 8 shows the breakdown of estimated lost franchise fees by jurisdiction:

Table 8

Estimated Lost Franchise Fees by Jurisdiction

West Sacramento	$583,000
Davis	$413,000
Woodland	$266,000
Unincorporated Yolo County	$120,000
Total Annexation Area	$1,382,000

2. Property Taxes

Similar to franchise fees, SMUD Staff also included an estimate of in lieu of property taxes to evaluate the economics of the PG&E vs. SMUD alternative. But once again, Staff did not address how SMUD plans to make up the loss in tax revenues to Yolo County. A utility tax would need approval by voters in each annexed jurisdiction to make up the loss. Even if the tax was approved, which is uncertain, the loss in tax revenues from PG&E would negatively affect services throughout Yolo County and not just in the annexation area due to the revenue allocation methodology employed by the County Auditor.**[22]** The tax revenues support the General Fund, libraries, school districts and other essential services. Therefore, all of Yolo County suffers from a loss in tax revenue and each city, as well as the county as a whole, would need to offset the loss.

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[22] Current legislation mandates that all cities within Yolo County would continue to receive property tax revenues from PG&E. R&T Code Section 100 (c)(1) states that the County Auditor shall allocate tax revenues equal to 102% of the amount of property tax revenue each taxing jurisdiction containing PG&E property received in the prior fiscal year would. The amount of revenue in excess of 102% would then be allocated to all taxing jurisdictions in the county based on a formula developed by the County Auditor. If the amount of property tax revenue available for allocation is insufficient (not enough to apply the 102% allocation), the tax revenue would be prorated based, again, on a formula developed by the County Auditor. Therefore, if PG&E taxable property in the annexation area is removed from the tax base, tax revenues to all jurisdictions in Yolo county are reduced.

In its analysis, SMUD staff simply accepted Beck's estimate that in-lieu of property taxes represent 3.16% of the distribution revenue requirement. Based on a GRC model, SMUD staff then "backed into" a rate of $.0011/kwh for the economic analysis. Multiplying this rate by estimated sales produces an estimate of $1.41 million for 2008.

In reality, property taxes are based on assessments done by the State Board of Equalization. PG&E estimates that it would pay approximately $710,000 in property taxes to Yolo County for its distribution and transmission facilities in the original annexation area in fiscal year 2005/2006. This value is based on the 2005/2006 assessment for Yolo County and the 2004/2005 tax rate. Future payments were escalated at 3% based on the most recent increase. This methodology results in an estimate of $800,000 for FY2008/2009.

Table 9 shows the breakdown of estimated lost property taxes by jurisdiction:

Table 9
Estimated Lost Property Taxes by Jurisdiction

Jurisdiction	FY 2005/2006	FY 2008/2009
West Sacramento	$175,000	$197,000
Davis	$189,000	$213,000
Woodland	$155,000	$175,000
Unincorporated Yolo County	$169,000	$190,000
Land	$22,000	$25,000
Total Annexation Area	$710,000	$800,000

D. PG&E's Rates

In order to determine the net effect of the annexation on how much Yolo customers will pay for their electricity, it is necessary to develop a forecast of electric rates over the relevant time period. While such forecasting efforts are subject to significant variability, it is an important element of this type of analysis.

PG&E has started with current average rates specific to the three cities in the annexation area. PG&E then adjusted these rates based on currently known factors that will impact rates in the near-term. Included are the Annual Energy True-up, which PG&E filed on September 1, 2005 to take effect January 1, 2006; the 2007 General Rate Case, for which a Notice of Intent was filed August 1, 2005, to take effect January 1, 2007; and PG&E's Automated Meter Initiative Application, filed July 15, 2005. These rate changes, to the extent approved by the CPUC, will be allocated to customer classes based on the principles in PG&E's 2003 General Rate Case (GRC) Phase II Settlement Agreement. This rate design settlement agreement, if approved by the CPUC, would reduce commercial and industrial rates while slightly raising residential rates, in order to move closer to correcting the rate misalignment that was adopted by the CPUC during the energy crisis to lessen its immediate impact on residential customers.

For the period beyond 2007, the rate forecast used in PG&E's analysis takes into account fluctuations in gas prices, using the same gas price forecast that is used to estimate SMUD's annexation-area power costs.

SMUD Staff's forecast of PG&E rates relies on an incorrect assumption of how the generation portion of PG&E's rates would be affected in the future by wholesale gas prices. The Staff Report estimates that about 70% of PG&E's resource portfolio would be affected by the fluctuations expected in wholesale gas prices. Global's examination of PG&E's resource mix determined that actual exposure in 2008 would be substantially lower.

E. Loss of AB1X Rate Protection

SMUD annexation of Yolo County would remove legislated rate protections currently in place for residential customers using at or below 130% of their baseline allocation with PG&E. Assembly Bill (AB) 1X, enacted during the California energy crisis of 2000-2001, has effectively frozen the end-user residential rates for usage below 130% of each customer's baseline usage amount at pre-energy crisis levels until the DWR costs are recovered. PG&E estimates that about 49% of all residential customers in the area proposed for annexation currently use at or below 130% of baseline allowance and would lose the statutory protection from any future rate increases if they were to be served by SMUD.

SMUD's April 2005 report did not mention the loss of these rate protections that would occur should it proceed with annexation. SMUD's more recent LAFCo Application does address this issue, claiming to guarantee that rates would be 2 percent below those of PG&E for all residential customers, even those with low usage. However, this "guarantee" may not be enforceable. If things do not turn out the way SMUD has optimistically assumed, SMUD will be forced to choose between raising the rates of either its Yolo or its Sacramento customers (and the latter group, too, has received a "guarantee" that it will not have to subsidize Yolo customers). In addition, SMUD's guarantee only lasts through 2012. But there is considerable uncertainty about whether the AB 1X protections expire in 2012 as SMUD has assumed. Thus SMUD's guarantee, even if it was enforceable, only offers similar protections as AB 1X for four years; thereafter, low usage and CARE customers will be at risk.

VI. RESULTS OF ANALYSIS

In order to facilitate comparisons between its economic feasibility analysis and those performed by Beck and SMUD staff, PG&E employed a discounted cash flow model, or *pro forma*, similar to the ones used in the Beck and Staff reports. Like the Beck and SMUD Staff models, PG&E's model assumes a 20-year analysis period beginning in 2008. Moreover, it employs the same conceptual design as the Beck and SMUD Staff models. Specifically, those models are designed to project annual revenues and costs (both operating and financing) from SMUD's proposed Yolo annexation,**[23]** and then develop a surcharge that, when added to the rates SMUD projects it will charge its native Sacramento County customers, will yield sufficient revenue each year to cover all costs of providing service in the proposed Yolo annexation area. The resulting 20-year projections of Yolo rates (equal to projected SMUD rates to native customers plus the projected annual surcharges) is then compared to a projection of PG&E's rates to determine savings to Yolo customers from the proposed annexation.

Both the Beck Report and the April 18 Staff Report contained models based upon this design, which would appropriately insulate SMUD's native customers from the risk that revenues are insufficient to cover the costs of the Yolo annexation (since any shortfalls are covered by the surcharge). However, in its LAFCo Application, SMUD has adopted new principles which eliminate that protection for native SMUD customers. As described earlier in Section IV, the Yolo customers can now be subsidized by SMUD's native customers, and not pay rates that recover SMUD's true cost to serve them. PG&E believes that this change in approach by SMUD distorts the analysis and conceals information about the true cost of the proposed

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[23] These costs include the legal and financial costs associated with acquiring PG&E's facilities, in-lieu franchise fees and property taxes that PG&E would be paying in the absence of the annexation), and non-bypassable charges the annexed customers will owe to PG&E.

annexation (by forcing higher rates upon native customers so that rates in Yolo can be kept lower and the annexation can be made to artificially appear more economic than it actually is). Consequently, PG&E's model retains the original approach employed by Beck and the April 18 SMUD Staff reports. By modeling the annexation in a way that assures that Yolo customers pay all the costs associated with the annexation (via the surcharge), a true picture of the economic feasibility is obtained.

PG&E's approach consists of three steps. First, PG&E replicated the results of the SMUD Staff model contained in Appendix D of the April 18 Staff Report. Using the SMUD Staff's input assumptions without making any changes, PG&E developed a model that successfully replicated the annual surcharge amounts and savings figures that SMUD Staff reported.

Second, PG&E then re-ran this model using corrected values for erroneous SMUD staff input assumptions to determine how the results changed. This step involved PG&E performing a thorough review of the assumptions and estimates used by SMUD. Previous sections of this report provide a detailed description of PG&E's approach and areas of agreement and disagreement with SMUD's assumptions, as well as the consequences to Yolo customers if SMUD's estimates are wrong. In some instances, PG&E accepted SMUD's input assumptions without change. For example, PG&E accepted SMUD's estimates of sales and number of customers, since they were based on the information provided initially by PG&E in response to data requests from the three cities and Yolo County. In other instances (e.g., acquisition costs), though, PG&E corrected the input values used by SMUD Staff, replacing them with more realistic values. The following list details each of the inputs and whether PG&E made corrections (and, if so, what those corrections entailed):

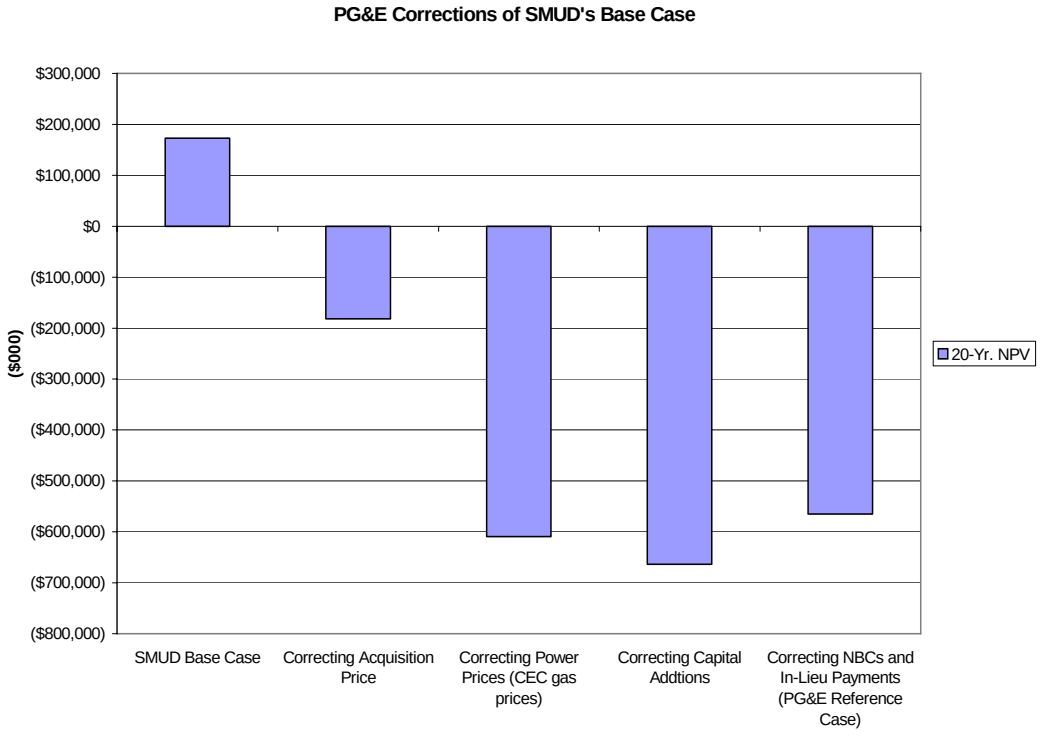
- Customers – PG&E used SMUD's assumed annual customer counts.
- Sales – PG&E used SMUD's assumed annual sales.
- Losses – PG&E used SMUD's assumed losses percentage.

- Conventional power supply costs – PG&E corrected SMUD's power cost assumptions replacing them with higher, more realistic power costs.
- Renewable power supply costs – PG&E accepted SMUD's assumptions that renewable power will constitute 20% of SMUD's power purchases by 2011.
- O&M and A&G costs – PG&E used SMUD's estimates.
- Ancillary services costs – included in PG&E's corrected power supply costs.
- Planning reserve costs – included in PG&E's corrected power supply costs.
- Public purpose programs — PG&E used SMUD's estimates.
- Non-bypassable charges – PG&E corrected SMUD's estimates based on recent CPUC decisions.
- Acquisition cost – PG&E increased SMUD's estimate to accurately account for the correct number and value of facilities in the annexation area.
- Taxable debt service costs – PG&E added 1.5% to the total acquisition cost for debt financing.
- Non-taxable debt service costs – PG&E increased SMUD's estimates to properly account for capital additions.
- PG&E rate forecast – PG&E corrected the forecast of its rates based on currently available information.
- In lieu franchise fee and property tax costs – PG&E corrected SMUD's estimates to align with amounts PG&E would expect to pay if it continues to serve the area.
- Discount rate – PG&E used SMUD's 6% assumption.

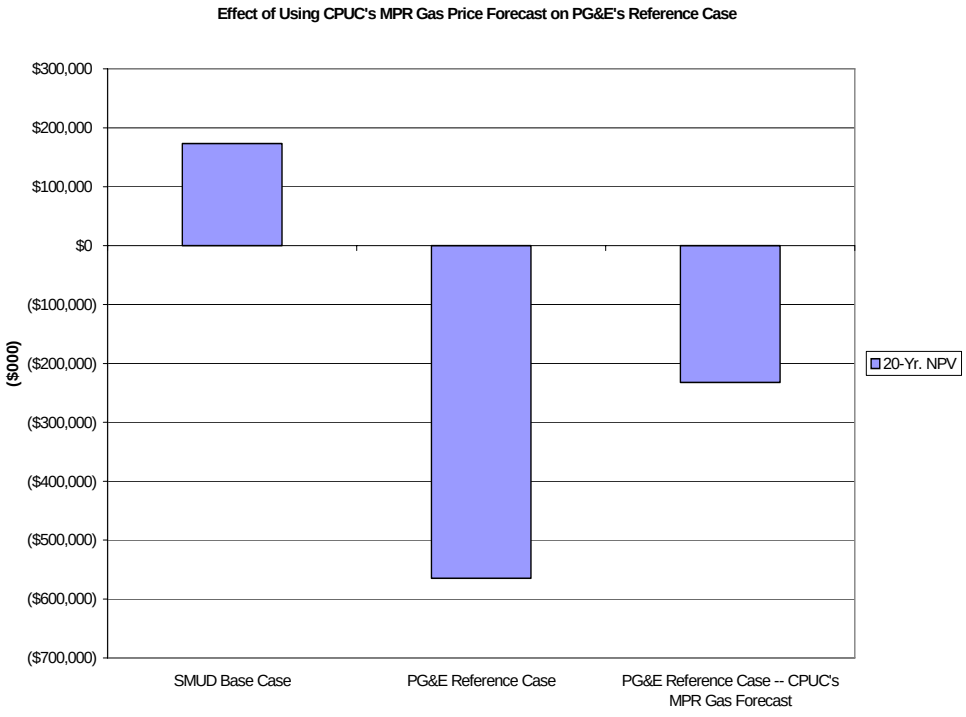
Greater details surrounding each of these corrections to SMUD's assumptions are provided in previous sections of this report.

The results of PG&E's analysis, depicted in a bar chart below, show a cumulative impact of each correction performed. The first bar shows 20-year NPV of SMUD's Base Case scenario. The second bar corrects the

acquisition price for PG&E's facilities in the annexation area and shows that correcting acquisition price alone reduces the 20-year NPV of annexation by $355 million compared to SMUD Base Case scenario. The third bar corrects power prices based on the CEC's gas price forecast, in addition to the acquisition price correction, reducing the 20-year NPV by an additional $428 million. The fourth bar adjusts SMUD's estimate of capital additions, in addition to the corrections shown in the previous bar, and reduces NPV by another $54 million. Lastly, the fifth bar shows corrections to NBCs, property taxes and franchise fees ($99 million NPV improvement) in addition to all previous corrections, that together produce a PG&E's Reference Case for an overall NPV of annexation at (-$565) million, which equates to an approximately 19% rate increase for the affected annexation customers.

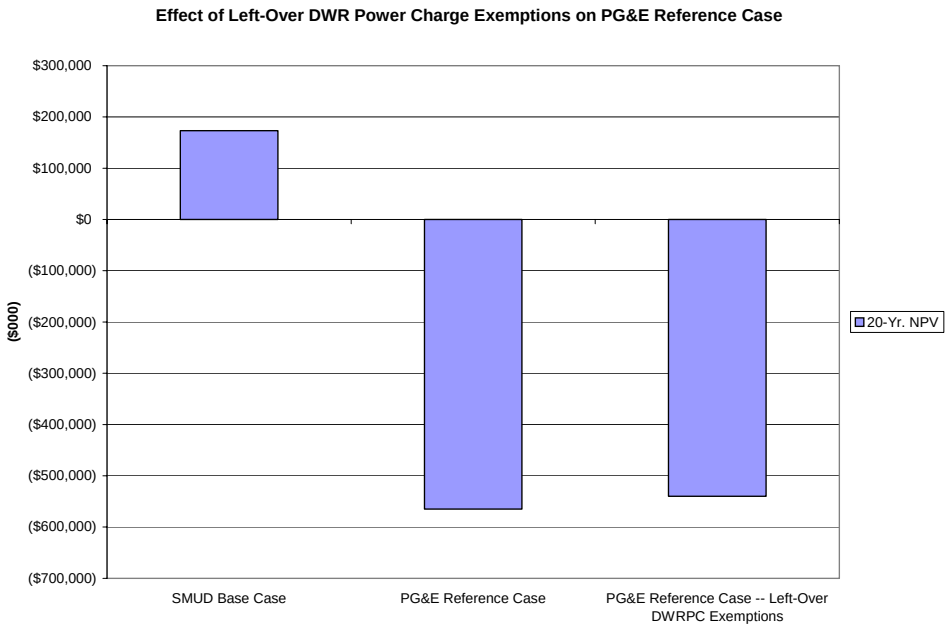


Finally, after correcting SMUD Staff's assumptions, PG&E performed several analyses to test the sensitivity of results to plausible changes in PG&E's input assumptions. Due to the uncertainty of future power prices and the resultant differential impacts on PG&E's and SMUD's rates in Yolo, PG&E ran a sensitivity scenario to determine how the results changed if, instead of using power prices derived from the CEC's gas price forecast, the power prices were derived from the CPUC's lower MPR gas price forecast.**[24]** The following bar chart shows the effect of this change on PG&E's Reference Case, where the first bar is SMUD's Base Case, the second bar is PG&E's Reference Case using the CEC gas price forecast and the third bar is the PG&E Reference Case modified to use the CPUC's MPR gas price forecast is used.



[24] The change in gas price forecast also affects PG&E rates, albeit to a lesser extent, and this was reflected in the analysis.

Additionally, PG&E performed a sensitivity examining the possibility that SMUD might receive the "left-over" exemptions associated with the DWR Power Charge for transferred load. The bar chart below shows the effect of this change on PG&E's Reference Case, where the first bar is SMUD's Base Case, the second bar is PG&E's Reference Case and the third bar is PG&E's Reference Case modified to assume SMUD is able to obtain a portion of left-over exemptions.



Copies of the financial *pro formas* detailing PG&E's analysis and underlying these bar charts are included in Attachment 2.

VII. CONCLUSION

As demonstrated throughout this report, and supported by the additional information presented in Volumes II and III, PG&E and its consultants – Black and Veatch and Global – have been careful and thorough in their review of the costs that SMUD would incur were it to annex into Yolo County, condemn PG&E's transmission and distribution facilities, install additional equipment as is necessary to sever this system from the remainder of PG&E's system, and procure new power resources to serve the area. Based on this analysis, PG&E and its consultants estimate that Yolo rates will increase by approximately 19% above those of PG&E. Furthermore, given SMUD's Surcharge Principle #3c, PG&E believes that additional significant costs will be shifted onto SMUD's existing customers. Finally, the "rate guarantee" that SMUD has proposed – 2% below PG&E's rates – will be unachievable in light of all of the costs that SMUD will incur, and thus present the risk of additional cost-shifting to SMUD's existing customers.

Attachment 1

Detailed Inventory and Valuation Information
Provided to SMUD and Yolo Cities
on
March 2005

Attachment 2

Proformas