## CIMERGY

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John I. Finnigan, Ir.
Senior Counsel

## VIA OVERNIGHT MAIL

January 27, 2006

## Ms. Elizabeth O'Donnell

Executive Director
Kentucky Public Service Commission
211 Sower Boulevard

## RECENTED

P.O. Box 615

Frankfort, Kentucky 40602-0615
$14 N 302006$
PuBLO STHEE वonghach

Re: In the Matter of an Adjustment of Gas Rates of The Union Light, Heat and Power Company
Case No. 2005-00042
Dear Ms. O'Donnell:
I have attached the following workpapers supporting ULH\&P's refund plan:

1. A two-page document explaining the assumptions and methodology for the refund calculations.
2. A one-page document containing examples of how the refund was calculated for individual accounts.
3. A one-page document detailing the refund amounts and number of refunds to be issued, by rate class, for the three months when ULH\&P's proposed rates were in effect.
4. A series of three sample bills for a customer, showing how the old rates and the proposed rates were billed. Note that this example is not intended to show how the refund will be billed. We will show the refund on the customer's bill with a billing message indicating that this is a refund payment, per the Commission's order in Case No. 2005-00042.

One final note on these workpapers: our Rates Department used SAS software to calculate the refund. We cannot provide this by email because it is too large, but we can download this data into a CD. Note, however, that you will need the SAS software installed on your computer to be able to run the CD. We could copy the SAS information into Excel but this would just show raw data, without the formulas. If you want this CD, please let me know and we'll get it to you as soon as possible.

If you have any questions, please do not hesitate to contact me at (513) 287-3601.
Sincerely,


John J. Finnegan, Jr.
Senior Counsel
JJF/sew
cc: Hon. Elizabeth E. Blackford (via overnight mail)

# Assumptions And Methodology Used For The Union Light, Heat \& Power Company Refund Case No. 2005-00042 

The calculation of the refund amounts due to the customers of The Union Light, Heat \& Power Company (Company) was based on the following assumptions and methodology:

## Assumptions

No "adjustment" observations.
Interest Rate (based on the daily 90-day Commercial Paper Discount Rate) 4.28\%.
Company Proposed Customer Charge - Residential (PCC) \$15.00.
Company Proposed Energy Charge - Residential (PEC) \$0.298534.
KY. PSC Final Customer Charge -- Residential (FCC) $\$ 12.00$.
KY. PSC Final Energy Charge - Residential (FEC) $\$ 0.268400$.
Company Proposed Customer Charge - General Service (PCC) $\$ 38.50$.
Company Proposed Energy Charge - General Service (PEC) $\$ 0.205400$.
KY. PSC Final Customer Charge - General Service (FCC) $\$ 30.00$.
KY. PSC Final Energy Charge - General Service (FEC)
$\$ 0.210100$.
Company Proposed Administrative Charge - Interruptible (PCC) \$430.00.
Company Proposed Energy Charge - Interruptible (PEC) \$0.0833.
KY. PSC Final Administrative Charge - Interruptible (FCC) \$430.00.
KY. PSC Final Energy Charge - Interruptible (FEC) \$0.0764.
Company Proposed Administrative Charge - Transportation (PCC) $\$ 430.00$.
Company Proposed Energy Charge - Transportation (PEC) \$0.1862.
KY. PSC Final Administrative Charge - Transportation (FCC) \$430.00.
KY. PSC Final Energy Charge - Transportation (FEC) \$0.1773.
Number of days to calculate interest (Interest Days):
Based on the payment due date of each meter read cycle for each month and the last date that customers were charged the Company Proposed amounts in 2005 (December 30).

Original Data:
Billing data files for the months of October, November and December 2005.

## Methodology

The Company programmatically calculated the refund amount starting with the original data from the billing files. The original data files used the Company Proposed Charges to calculate each bill.

The October bills were prorated. Each bill showed an amount based on pre-October $3^{\text {rd }}$ usage and usage on and after October $3^{\text {rd }}$. Only the portion showing the October $3^{\text {rd }}$ and after amounts were used in this refund calculation.

Each bill was then recalculated using the Ky. PSC ordered charges. The difference between the proposed amount due and the final amount due was then determined. Interest was calculated on this difference from the original payment due date through December $30^{\text {th }}$. The calculated difference plus the interest is the monthly refund for each customer. The monthly refunds were added to come up with total refund for each customer.

In programmatic form, here is how the calculations were done:
Proposed Customer Amount $=$ Customer Charge (in billing files)
Proposed Energy Amount $=\operatorname{ccf}$ (usage) $*$ PEC (should equal the billing files)
Proposed Base Amount $=$ Proposed Customer Amount + Proposed Energy Amount
Final Customer Amount $=($ Proposed Customer Amount $/$ PCC $) *$ FCC
[This allows for any prorated bills, for example - a customer starts 15 days into a
30 -day cycle. The Proposed Customer Amount $=\$ 7.50$ ( $1 / 2$ of $\$ 15.00$ ).
Therefore, the Final Customer Amount is $(7.50 / 15.00) * 12.00=6.00$.]
Final Energy Amount $=\mathrm{ccf} *$ FEC
Final Base Amount $=$ Final Customer Charge + Final Energy Charge
Base Refund = Proposed Base Amount - Final Base Amount
Interest $=\left(\left(\right.\right.$ Base Refund $\left.*(1+(\text { Interest Rate } / 365))^{\text {Interest Days }}\right)-$ Base Refund $)$
Monthly Refund $=$ Base Refund + Interest
Total Refund = Sum of each customer's monthly refunds

| Account Tenant No. Cycle | 33000220 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 21 |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 18 |  |  |  |  |  |  |  |  |  |  |  |  |
| Month | Interest Days | ccf | Original Customer Charge | Original Energy Revenue | Proposed Customer Charge | Proposed Energy Revenue | Proposed Base | Final Customer Charge | Final Energy Revenue | Final Base | Base Refund | Interest | Monthly Refund |
| OCT | 44 | 92 | \$10.32 | \$27.47 | \$10.32 | \$27.47 | \$37.79 | \$8.26 | \$24.69 | \$32.95 | \$4.84 | \$0.03 | \$4.87 |
| NOV | 11 | 96 | 15.00 | 28.66 | 15.00 | 28.66 | 43.66 | 12.00 | 25.77 | 37.77 | 5.89 | 0.01 | 5.90 |
| DEC | 0 | 191 | 15.00 | 57.02 | 15.00 | 57.02 | 72.02 | 12.00 | 51.26 | 63.26 | 8.76 | 0.00 | 8.76 |
| TOTAL REFUND $\$ 19.53$ |  |  |  |  |  |  |  |  |  |  |  |  |  |

## OCTOBER Calculations

Interest Days = Calculation End Date(Dec, 30) - Scheduled Due Date (Nov. 16) $=44$
Formula Calculations
44
Final Customer Charge $=(\$ 10.32 / \$ 15.00) * \$ 12.00=\$ 8.26$
$\$ 8.26$
Interest $=\left(\$ 4.84^{*}(1+(.0428 / 365))^{\wedge} 44\right)-\$ 4.84=\$ 0.03$
$\$ 0.03$
Original and Proposed Data should equal. Cinergy billed the customers at the Proposed Charges.

RATE GS


RATE GS

| Account | 99300315 |
| :--- | ---: |
| Tenant No. | 20 |
| Cycle | 09 |


| Month | Interest Days | ccf | Original Customer Charge | Original Energy Revenue | Proposed Customer Charge | Proposed Energy Revenue | Proposed Base | Final Customer Charge | Final Energy Revenue | Final Base | Base Refund | Interest | Monthly Refund |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OCT | 57 | 3 | \$10.63 | \$0.62 | \$10.63 | \$0.62 | \$11.25 | \$8.28 | \$0.63 | \$8.91 | \$2.34 | \$0.02 | \$2.36 |
| NOV | 28 | 353 | 38.50 | 72.51 | 38.50 | 72.51 | 111.01 | 30.00 | 74.17 | 104.17 | 6.84 | 0.02 | 6.86 |
| DEC | 0 | 2,813 | 38.50 | 577.79 | 38.50 | 577.79 | 616.29 | 30.00 | 591.01 | 621.01 | (4.72) | 0.00 | (4.72) |
| TOTAL RE | ND |  |  |  |  |  |  |  |  |  |  |  | \$4.50 |

OCTOBER Calculations
Interest Days $=$ Calculation End Date(Dec 30) - Scheduled Due Date (Nov. 3) $=$
Formula Calculations
Final Customer Charge $=(\$ 10.63 / \$ 38.50) * \$ 30.00=\$ 8.28$
Interest $=\left(\$ 2.34^{*}(1+(.0428 / 365))^{\wedge} 57\right)-\$ 2.34=\$ 0.02$ $\$ 0.02$
Original and Proposed Data should equal. Cinergy billed the customers at the Proposed Charges.

## THE UNION LIGHT, HEAT \& POWER COMPANY

## Refund Totals Analysis for Case No. 2005-00042

| RATE | Bills | CCF | Refunds |  |  | Base Refund | Interest | Net Refund |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | October | November | December |  |  |  |
| RS | 250,989 | 16,303,659 | \$115,367 | \$384,664 | \$608,219 | \$1,108,250 | \$1,643 | \$1,109,893 |
| GS | 19,719 | 9,394,389 | 21,092 | 45,242 | 30,568 | 96,902 | 238 | 97,140 |
| IT | 40 | 2,517,369 | 8,062 | 9,307 | 0 | 17,369 | 22 | 17,391 |
| FT | 116 | 2,287,288 | 8,840 | 11,517 | 0 | 20,357 | 23 | 20,380 |
| total | 270,864 | 30,502,705 | \$153,361 | \$450,730 | \$638,787 | \$1,242,878 | \$1,927 | \$1,244,805 |
|  | Bills |  |  |  | CCF |  |  |  |
| RATE | October | November | December | TOTAL | October | November | December | TOTAL |
| RS | 75,997 | 87,376 | 87,616 | 250,989 | 634,174 | 4,188,989 | 11,480,496 | 16,303,659 |
| GS | 5,948 | 6.845 | 6,926 | 19,719 | 525,133 | 2,749,853 | 6,119,403 | 9,394,389 |
| IT | 20 | 20 | 0 | 40 | 1,168,474 | 1,348,895 | 0 | 2,517,369 |
| FT | 58 | 58 | 0 | 116 | 993,255 | 1,294,033 | 0 | 2,287,288 |
|  |  | Customer Charge | Energy Charge |  |  | Full-Month Bill Percentage |  |  |
| RATE |  |  |  |  |  | October | November | December |
| RS - Proposed |  | \$15.00 | \$0.298534 |  |  | 42.212\% | 98.585\% | 99.779\% |
| - Final |  | \$12.00 | \$0.268400 |  |  | 42.211\% | 98.584\% | 99.778\% |
| GS - Proposed |  | \$38.50 | \$0.205400 |  |  | 46.601\% | 99.970\% | 1.008\% |
| - Final |  | \$30.00 | \$0.210100 |  |  | 46.601\% | 99.970\% | 1.008\% |
| IT - Proposed |  | \$430.00 | \$0.083300 |  |  |  |  |  |
| - Final |  | \$430.00 | \$0.076400 |  |  |  |  |  |
| FT - Proposed |  | \$430.00 | \$0.186200 |  |  |  |  |  |
| - Final |  | \$430.00 | \$0.177300 |  |  |  |  |  |

## Refund Calculation Examples

[^0]Account Number
8018


For more detailed billing information on your monthly bill, check box on right

\$ $\qquad$ $\$$

WinterCare Contribution Amount Enclosed (for Customer Assistance)
********AUTO** 5-DIGIT 41017



PO Box 740320 Cincinnati $\mathrm{OH} 45274-0320$

200 $0000045580633000220219 \mathrm{lllb20059} 00000478172$

Page 1 of 3

|  |  |  |
| :---: | :---: | :---: |
|  | Cinergy/ULH\&P | $513-421-9500$ |
| Fort Micheirky 41017 |  |  |
| 36 <br> 4 |  |  |
| PO Box 740320 | Payments after Oct 25 not included | Bill prepared on Oct 25, 2005 |
| Cincinnati OH 45274-0320 | Last payment received Ocl 04 | Next meler reading Nov 22, 2005 |

PLEASE NOTE: This is your Budget Billing adjustment bill. Beginning next month, your new Budget Billing amount will be $\$ 329.00$.

|  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gas | 000795314 | Sep 23 | Oct 25 | 32 | 5428 | 5562 | 134 |
| Elec | 048793767 | Sep 23 | Oct 25 | 32 | 76310 | 77375 | 1.065 |


|  |  |
| :---: | :---: |
| Usage - 42 CCF |  |
| Cinergy /ULH\&P - Rate RS | \$ 62.49 |
| Usage - 92 CCF |  |
| Cinergy/ULH\&P - Rate RS | 147.52 |
| Current Gas Charges | \$210.01 |
| Gas Cost Recovery \$1.15970000/CCF |  |
| Old Rate Effective Sep 23 To Oct 03 New Rate Effective Oct 03 To Oct 25 |  |


| W W\% |  |
| :---: | :---: |
| Amt Due - Previous Bill | \$ 233.00 |
| Payment(s) Received | 233.00 cr |
| Balance Forward | 0.00 |
| Budget Billing Amt Due | 455.80 |
| Current Amount Due | \$455.80 |


|  | \% |
| :---: | :---: |
| $\text { Usage - } 1,065 \mathrm{kWh}$ | \$7178 |
| Cinergy/ULH\&P - Rate RS Current Electric Charges | \$71.78 |




Page 2013


Check out CinergyComfont com where you can enroll in Budget Billing and find ways to save energy and money


Page 3 of 3

$\qquad$
CCF Gas Usage KWh Eloctrlo Usage



Calculations based on most recent 12 month history
Calculations based on most recent 12 month bistory $\begin{array}{lr}\text { Tolai Usage } & 1.366 \\ \text { Average Usage } & 114\end{array}$ Average Usage Total Usago Avarage Usage 19.583
1.632 1.632

|  | OCT | NOV | DEC | JAN | FEB | MAF | APP | MAY | JUN | JUL | AUG | SEP | OCT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cas | 41 | 78 | 197 | 285 | 230 | 241 | 124 | 1 | 1 | 12 | 26 | 37 | 134 |
| Eloctric | 1.161 | 1.124 | 1.338 | 1.746 | 1.039 | 1.112 | 1,202 | 1,105 | 1.713 | 3,306 | 2.915 | 1.918 | 1.085 |



Dec 19, 2005

|  |
| :---: |
|  |  |
|  |  |
|  |

\$ for Cusiomer Assistance

PO Box 740320
Cincinnati OH 45274-0320

200 00000329002 33000220219 221920050 00000345113

Page 1 of 3

|  |  |  |
| :---: | :---: | :---: |
| FortMitchellKY 41017 | Cinergy/ULH\&P | 513-421-9500 |
| K | K |  |
| $\begin{aligned} & \text { PO Box } 740320 \\ & \text { Cincinnati OH 45274-0320 } \end{aligned}$ | Payments atter Nov 23 not included Last payment received Nov 02 | Bill prepared on Nov 23, 2005 Next meter teading Dec 27, 2005 |



|  |  |
| :---: | :---: |
| Usage 96 CCF |  |
| Cinergy ULH\&P Rate RS | \$171.78 |
| Current Gas Charges | \$771.78 |
| Gas Cost Recovery $\$ 1.30160000 / \mathrm{CCF}$ |  |


|  |  |
| :---: | :---: |
| Usage - 835 kWh |  |
| Cinergy/ULH\&P - Rate RS | \$ 57.85 |
| Current Electric Charges | \$57.85 |



|  |  |
| :---: | :---: |
| Amt Due - Previous Bill | \$ 455.80 |
| Payment(s) Received | 455.80 cr |
| Balance Forward | 0.00 |
| Budget Billing Amt Due | 329.00 |
| Current Amount Due | \$329.00 |


|  |  |
| :---: | :---: |
| Current Billing | \$ 329.00 |
| Budgel Billing Balance | 92.48 cr |
| Total Account Balance | \$ 236.52 |

Urgent Message - We appreciate your help in providing us with your meter read; however, we are required to have an employee read your meter(s) at least once a year. Please call us today to make arrangements for us to read your meter.


Page 2 of 3


Budget Billing allows you to level out your energy bill. Go to www.CinergyComfort.com to enroll, or call 1-888-BEWARM2 (1-888-239-2762).

|  |  |  |  |
| :---: | :---: | :---: | :---: |
| Gas |  | Cinergy/ULH\&P |  |
| Meter - | 000795314 |  |  |
| CCF Usage - | 96 | Customer Charge $\$ 15.00$ |  |
| Oct 25 - Nov 22 28 Days |  | Gas Delivery Charge ${ }_{\text {96 CCF }}$ \$ $0.29853400 \quad 28.66$ |  |
|  |  |  |  |
|  |  | G6 CCF @ \$0.03299140 3.17 |  |
|  |  | Gas Cost Recovery <br> 96 CCF @ $\$ 1.30160000124 .95$ | \$171.78 |
|  |  |  | \$171.78 |
| Electric Meter- | 048793767 | Cinergy/ULH\&P <br> Rate RS - Residential Svc-Winter |  |
| kWh Usage - | 835 | Customer Charge \$3.73 |  |
| Oct 25 - Nov 22 28 Days |  | Energy Chrg |  |
|  |  | Ela $835 \mathrm{kWh} @ \$ 0.0656200054 .79$ |  |
|  |  | Elec DSM Rider 835 kWh @ \$0.00172300 1.44 |  |
|  |  | Elec Fuel Adjustment |  |
|  |  | $835 \mathrm{kWh} @ \$ 0.00252500 \mathrm{cr}$ 2.11cr | 57.85 |
|  |  |  | \$ 57.85 |


|  |  |  |  |
| :---: | :---: | :---: | :---: |
| Taxes | Rate Incr for School Tax | \$ 6.89 | \$ 6.89 |
|  |  |  | \$ 6.89 |


| F |  |  |  |
| :---: | :---: | :---: | :---: |
| SummaryBBP Option:BBP Installment Amount: | $\begin{array}{r} \text { Annual Plan } \\ \$ 329.00 \end{array}$ | Previous Budget Billing Balance | \$0.00 |
|  |  | Current Gas Charges | 171.78 |
|  |  | Current Electric Charges | 57.85 |
|  |  | Taxes | 6.89 |
|  |  | Budgel Billing Amt Due | 329.00 cr |
|  |  | Budget Billing Balance | \$92.48\% |

Page 3 of 3

$\qquad$
CCF
kWh Eloctrlc Usago



Calculations based on most recent 12 month history $\begin{array}{lr}\text { Total Usage } & 19,294 \\ \text { Average Usage } & 1,608\end{array}$

|  | NOU | DEC | JAN | FEB | MAF | APR | MAY | JuN | JUL | AUC | SEP | OCT | NOV |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gas | 78 | 197 | 285 | 230 | 241 | 124 | 1 | 1 | 12 | 26 | 37 | 134 | 96 |
| Electric | 1,124 | 1,338 | 1.748 | 1,039 | 1.112 | 1.202 | 1.105 | 1.713 | 3.306 | 2.915 | 1.918 | 1.085 | 835 |





PO Box 740320 Cincinnati $\mathrm{OH} 45274-0320$

## 

Page 1 of 3


|  |  |
| :---: | :---: |
| Usage - 191 CCF |  |
| Cinergy/ULH\&P - Rate RS | \$ 312.24 |
| Current Gas Charges | \$312.24 |
| Gas Cost Recovery $\$ 1.22470000 / \mathrm{CCF}$ |  |


|  |  |
| :---: | :---: |
| Amt Due - Previous Bill | \$ 329.00 |
| Payment(s) Received | 329.00 cr |
| Balance Forward | 0.00 |
| Budget Billing Amt Due | 329.00 |
| Current Amount Due | \$329.00 |


|  |  |
| :---: | :---: |
| Usage - $2,741 \mathrm{kWh}$ |  |
| Cinergy/ULH\&P - Rate RS | \$155.23 |
| Current Electric Charges | \$155.23 |


| Taxes | \$ 14.03 |
| :---: | :---: |


| ( | 202 |
| :---: | :---: |
| Current Billing | \$329.00 |
| Budget Billing Balance | 60.02 |
| Total Account Balance | \$389.02 |

Urgent Message - Your bill has been estimated for at least 9 months because we have not had access to your meter(s). Please call us to make permanent meter reading arrangements belore your next scheduled meter reading date.



You can't predict the weather, but you can your monthly bill. If you haven't already, enroll in Budget Billing today. Sign up ai www. CinergyComfort.com, and also learn about ways to reduce your energy use. Or call 1-888-BEWARM2 (1-888-239-2762).

| F |  |  |  |
| :---: | :---: | :---: | :---: |
| Gas |  | Cinergy/ULH\&P <br> Rate R'S - Residential Service | \$312.24 |
| CCF Usage - | 191 | Customer Charge $\$ 15.00$ |  |
| Nov 22 - Dec 29 37 Days |  | Gas Delivery Charge 0 |  |
|  |  | Gas DSM Rider @ \$0.29853400 57.02 |  |
|  |  | Gas CCF @ \$0.03299140 6.30 |  |
|  |  | Gas Cost Recovery 191 CCF @ $\$ 122470000 \quad 233.92$ |  |
|  |  |  |  |
|  |  |  | \$312.24 |
| Electric Meter kWh Usage <br> Nov 22 - Dec 29 37 Days | $\begin{array}{r} 048793767 \\ 2,741 \end{array}$ | Cinergy/ULH\&P <br> Rate R'S - Residential Svc-Winter |  |
|  |  |  |  |
|  |  | Customer Charge \$3.73 |  |
|  |  | Energy Chrg |  |
|  |  |  |  |
|  |  | $1.741 \mathrm{kWh} @ \$ 0.05059000$ 88.08 |  |
|  |  | 2,741 kWh @ \$0.00172300 4.72 |  |
|  |  | Elec Fuel Adjustment |  |
|  |  | $2,741 \mathrm{kWh}$ @ \$ 0.00252500 cr 6.92cr | 155.23 |
|  |  |  | \$155.23 |



|  |  | 3" |  |
| :---: | :---: | :---: | :---: |
| Summary |  | Previous Budget Billing Balance | \$ 92.48 cr |
| BBP Option : | Annual Plan | Current Gas Charges | 312.24 |
| BBP Installment Amount: | \$ 329.00 | Current Electric Charges | 155.23 |
|  |  | Taxes | 14.03 |
|  |  | Budget Billing Amt Due | 329.00 cr |
|  |  | Budget Billing Balance | \$ 60.02 |




[^0]:    Rate RS
    October $\quad=\operatorname{ROUND}\left(\left(634174^{*} 0.298534\right)-\left(634174^{*} 0.2684\right), 0\right)+\operatorname{ROUND}^{\left.(0.4221247066771 * 75997 * 15)-\left(0.4221067717585^{*} 75997^{*} 12\right), 0\right)}$
    November $=$ ROUND $\left(\left(4188989^{*} 0.298534\right)-(4188989 * 0.2684), 0\right)+$ ROUND $\left(\left(0.9858497909418^{*} 87376^{* 15}\right)-\left(0.9858365569493^{*} 87376^{* 12), 0)}\right.\right.$
    December $=$ ROUND $\left(\left(11480496^{*} 0.298534\right)-\left(11480496^{*} 0.2684\right), 0\right)+$ ROUND $\left(\left(0.9977850468712^{*} 87616^{* 15}\right)-\left(0.9977847748509^{*} 87616^{* 12}\right), 0\right)$

