## - Miscellaneous Expense Adjustments

Q. HAVE YOU PREPARED A SCHEDULE SHOWING VARIOUS MISCELLANEOUS EXPENSE ADJUSTMENTS YOU RECOMMEND FOR RATE MAKING PURPOSES IN THIS CASE?
A. Yes, these recommended miscellaneous expense adjustments are shown on Schedule RJH-16.
Q. COULD YOU DISCUSS EACH OF THESE MISCELLANEOUS EXPENSE ADJUSTMENTS?
A. Yes. First, the Company's proposed above-the-line operating expenses include $\$ 15,193$ for stock option loan expenses. As described in the response to AG-1-43, these concern "expenses associated with setting up loans for key employees to increase their ownership in the Company." In my opinion, the ratepayers should not be burdened with these kind of corporate officers "perks." I therefore recommend that these expenses be removed from the rate setting formula in this case.

Second, I have reflected a correction to the Company's proposed I\&D expense adjustment in accordance with the Company's response to PSC-2-33.

Third, I have eliminated a number of miscellaneous expenses for which the Company has agreed in data responses that they should be removed from the case for various reasons. These concern the removal of certain advertising expenses (line 3-\$152) as per the response to PSC-2-45: the removal of certain EPRI expenses (line $5-\$ 570$ ) as per the response to PSC-2-56; and the removal of certain miscellaneous non-jurisdictional expenses (line 7-\$966) as

## UNION LIGHT HEAT AND POWER COMPANY

 MISCELLANEOUS EXPENSE ADJUSTMENT1. Removal of Stock Option Loan Expenses ..... $(\$ 15,193)$ (1)
2. I\&D Expense Adjustment ..... $(2,985)(2)$
3. Removal of Rate Case Advertising Expense ..... (151) (3)
4. Removal of Company Picnic Expenses ..... (347) (4)
5. Removal of EPRI Expenses ..... (570) (5)
6. Removal of Legislative Exchange Council Expenses ..... (358) (6)
7. Removal of Miscellaneous Non-Jurisdictional Expenses ..... (966) (7)
8. Removal of Government Affairs Expenses ..... $(7,371) \quad(8)$
9. Total Miscellaneous Expense Adjustments ..... (\$27,941)
10. Composite Net After-Tax Income Rate61.6525\%(9)
11. Impact on After-Tax Operating Income$\$ 17,226$
(1) Responses to AG-1-43 and PSC-2-44.
(2) Response to PSC-2-33.
(3) Response to PSC-2-45
(4) Response to PSC-2-42.
(5) Response to PSC-2-56
(6) Reponse to AG-1-43A, p. 2, lines 14-15.
(7) Responses to PSC-3-30, 2-57, and 1-26.
(8) Responsed to AG-1-51, p. 1 and AG-2-15.
(9) Composite of state income tax rate of $5.15 \%$ and federal income tax rate of $35 \%$ : $38.3475 \%$. $1-38.3475 \%=61.6525 \%$

# Response of the Attorney General to <br> Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company <br> Case No. 2005-00341 

Witness Responsible:
ROBERT J. HENKES

Question 24: Please provide copies of all workpapers in electronic format, including all formulae intact related to Mr. Henke's testimony and exhibits presented in this case.

Response: Mr. Henkes does not have any workpapers related to his testimony and exhibits. The "workpapers" used by Mr. Henkes in the preparation of his testimony and exhibits consist of KPCo's filing material, the responses to KPSC, AG and KIUC data requests, and various prior KPSC orders containing KPSC ratemaking policy and rulings relied on by Mr. Henkes. These "workpapers" are source-referenced throughout Mr. Henkes's testimony and exhibits. All of the aforementioned "workpaper" material is also in the possession of the Company.

# Response of the Attorney General to Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company 

Case No. 2005-00341

## Responding Witness: Michael J. Majoros Jr.

25. Please reference Majoros testimony, at p. 4, lines 6-9. Please provide a copy of Mr. Majoros' testimony in Case No. 2005-00042. Please provide a copy of his electric plant depreciation testimony submitted in any jurisdiction over the last 5 years, along with any transcripts of Mr. Majoros' testimony in such proceedings.

Response:
See attached CD for the following testimonies. Transcripts have never been in the possession of Mr. Majoros, but may be available at the various Commissions' websites.

| Year | Jurisdiction | Docket | Company |
| :--- | :--- | :--- | :--- |
| 2003 | FERC | ER03-409-000, ER03- <br> $666-000$ | Pacific Gas and Electric Co. |
| 2001 | Kentucky | $2000-373$ | Jackson Energy Cooperative |
| 2001 | Kansas | $01-$ WSRE-436-RTS | Western Resources |
| 2001 | Indiana | 41746 | Northern Indiana Power Company |
| 2001 | Pennsylvania | R-00016356 | Wellsboro Electric Coop. |
| 2001 | Florida | $010949-$ EL | Gulf Power Company |
| 2002 | Nevada | $01-10001$ \&10002 | Nevada Power Company |
| 2002 | Kentucky | $2001-244$ | Fleming Mason Electric Coop. |
| 2002 | Nevada | $01-11031$ | Sierra Pacific Power Company |
| 2002 | Vermont | 6596 | Citizen's Energy Services |
| 2003 | New Jersey | ER02050303 | Public Service Electric and Gas Co. |
| 2003 | New Jersey | ER02080506 | Jersey Central Power \& Light |
| 2003 | New Jersey | ER02100724 | Rockland Electric Co. |
| 2003 | Nova Scotia, CN | EMO NSPI | Nova Scotia Power, Inc. |
| 2003 | Indiana | 42359 | PSI Energy, Inc. |
| 2003 | Hawaii | $02-0391$ | Hawaiian Electric Company |
| 2004 | New Jersey | ER03020110 | Atlantic City Electric Co. |
| 2004 | Arizona | E-01345A-03-0437 | Arizona Public Service Company |
| 2004 | Kentucky | $2003-00434,00433$ |  <br> Electric |
| 2004 | Vermont | 6946,6988 | Central Vermont Public Service <br> Corporation |
| 2004 | Delaware | $04-288$ | Delaware Electric Cooperative |
| 2004 | Missouri | ER-2004-0570 | Empire District Electric Company |
| 2005 | California | A.04-12-014 | Southern California Edison Co. |
| 2005 | Kentucky | $2005-00042$ | Union Light Heat \& Power |
| 2005 | Florida | $050045 \& 050188-$ EI | Florida Power \& Light Co. |
| 2005 | Kansas | $05-$ WSEE-981-RTS | Westar Energy, Inc. |
|  |  |  |  |

# Response of the Attorney General to Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company Case No. 2005-00341 

Responding Witness: Michael J. Majoros Jr.
26. Please reference Majoros testimony, at p. 4 [sic], lines 9-11. Please provide a copy of all workpapers, analyses, documents and background information supporting the Snavely King Electric Production Plant study included as Exhibit MJM-3.

Response:
See attached CD.

## Response of the Attorney General to

## Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company Case No. 2005-00341

Responding Witness: Michael J. Majoros Jr.
27. Please reference Majoros testimony, at p. 4 [sic], lines 9-15. Please provide a copy of all workpapers, analyses, documents and background information supporting the Snavely King Net Salvage Study included as Exhibit MJM-5.

Response:
See attached CD. Also see response to Commission Staff question 18 .

# Response of the Attorney General to Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company Case No. 2005-00341 

Responding Witness: Michael J. Majoros Jr.
28. Please reference Majoros testimony, at p. 8, lines 14-15. Please provide a copy of the complete study referenced.

Response:
See attached CD. Both a PDF version and an Excel version have been provided.

# Response of the Attorney General to <br> Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company Case No. 2005-00341 

Responding Witness: Michael J. Majoros Jr.
29. Please reference Majoros testimony, at p. 10, lines 1-8. Please explain where the depreciation concepts set forth in Exhibit MJM-7 come from? Please further identify the author (name and title) of this exhibit, and describe in detail the author's qualifications for setting forth the material in the exhibit?

Response:
Mr. Majoros is the author of Exhibit_(MJM-7). Mr. Majoros relied upon his 33 years of experience to prepare the discussion of depreciation concepts in Exhibit (MJM-7).

# Response of the Attorney General to Initial Data Request of Kentucky Power Company to the Attorney General <br> Kentucky Power Company <br> Case No. 2005-00341 

Responding Witness: Michael J. Majoros Jr.
30. Please reference Majoros testimony, at p. 11, lines $10-11$. Is the $\$ 28.2$ million collected from ratepayers an amount not yet spent, but will be spent when the assets are retired from service? Is this amount a timing difference between collection from ratepayers and incurring the expense?

Response:
The $\$ 28.2$ million was calculated by the Company, not Mr. Majoros. The Company identified and reported the $\$ 28.2$ million to its shareholders and the SEC as a regulatory liability as defined by SFAS No. 71. That means that it is refundable to ratepayers if not spent on its intended purpose, i.e., cost of removal. The $\$ 28.2$ million is the amount of cost of removal collected from ratepayers over and above the amount spent for cost of removal so far. In other words, this amount is the difference between the accumulated amounts collected for cost of removal and the amounts actually spent for cost of removal. To the extent the money has been spent, it was not spent on the cost of removal. Mr. Majoros does not believe or agree that all of the excess $\$ 28.2$ million will ever be spent for its intended purpose.

# Response of the Attorney General to Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company <br> Case No. 2005-00341 

Responding Witness: Michael J. Majoros Jr.
31. Please reference Majoros testimony, at p. 18, line 14. What is meant by the term "nonlegal AROs"?

Response:
See Mr. Majoros' testimony, page 10, line 19 through page 11, line 4.

# Response of the Attorney General to <br> Initial Data Request of Kentucky Power Company to the Attorney General <br> Kentucky Power Company Case No. 2005-00341 

Responding Witness: Michael J. Majoros Jr.
32. Please reference Majoros testimony, at p. 21, line 7. Does Mr. Majoros have any basis to believe that the State of Kentucky has any plans or intentions to deregulate the generation portion of regulated electric public utilities within the State of Kentucky? If so, please set forth the reasons for such a belief.

Response:
Mr. Majoros has no specific knowledge regarding the plans of the Commonwealth of Kentucky regarding future regulation of any portion of the electric utility. His concerns regarding deregulation are set out on pages 21-22 of his testimony.

# Response of the Attorney General to Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company Case No. 2005-00341 

Responding Witness: Michael J. Majoros Jr.
33. Please reference Majoros testimony, at p. 23, lines 20-23. Provide any regulatory or academic authority for the approach identified.

Response:
Assuming the request is directed at regulatory or academic authority for separate cost of removal depreciation rates - see FERC Order No. 631.

# Response of the Attorney General to Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company Case No. 2005-00341 

Responding Witness: Michael J. Majoros Jr.
34. Please reference Majoros testimony, at p. 25, lines 15-16. Please provide any academic or regulatory authority upon which Mr. Majoros relied, if any, to support his conclusion that "[a] supportable average service life assumption based on the flow of dollars in and out of the accounts was much more reasonable."

Response:
Response:
See the discussion of the Actuarial Life Analysis in Chapter VIII of the 1996 NARUC Depreciation Manual. Also, this was and is Mr. Majoros' opinion based on his personal observations and analysis in that proceeding. An actuarial study of the dollars flowing in and out of the water treatment accounts was doable and would have eliminated the need to establish the arbitrary final retirement years and life spans in that study. The same is true for Kentucky Power.

# Response of the Attorney General to Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company <br> Case No. 2005-00341 

Responding Witness: Michael J. Majoros Jr.
35. Please reference Majoros testimony, at p. 27, lines 5-9. Please identify which discovery request referred to in Exhibit MJM-9 asks for Kentucky Power's reason for not installing the FGD equipment on Big Sandy Unit 1.

Response:
The questions and responses in Exhibit__(MJM-9) speak for themselves. The question was not posed precisely as stated in the question above.

# Response of the Attorney General to Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company Case No. 2005-00341 

Responding Witness: Michael J. Majoros Jr.
36. Please provide an electronic copy of the workpapers that support the calculations shown on MJM Exhibits 1 and 2.

Response:
See attached CD.

# Response of the Attorney General to <br> Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company <br> Case No. 2005-00341 

Responding Witness: Michael J. Majoros Jr.
37. Please provide an electronic copy of the calculation of Mr. Majoros' theoretical depreciation reserve.

Response:
See Exhibit__(MJM-2), page 4 of 5. An electronic version with formulae intact is provided in response to Question No. 36.

# Response of the Attorney General to Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company Case No. 2005-00341 

Responding Witness: Michael J. Majoros Jr.
38. Please provide the 620 page depreciation study referred to at page 8 , line 14 of Mr . Majoros' testimony. The response should include both a hard copy and an electronic copy with all formulas intact.

Response:
See the response to question 28 of this data request and response to Commission question 11 (b). One hard copy of the depreciation study is being provided to the Company and one to the Commission. Should any other party or person on the service list wish to see the hard copy of the study rather than the electronic copy provided in response to question 28, a copy will be made available for review at the offices of the Attorney General in Frankfort, Kentucky.

# Response of the Attorney General to Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company <br> Case No. 2005-00341 

Respondent: OAG Witness Dr. J. Randall Woolridge
39. Please reference Woolridge testimony, at page 3, line 13. Please provide the yields on ten-year Treasury Bonds portrayed on the graph. The response should include both a hard copy and an electronic copy of the yields.

## Response

The data are provided electronically on CD in KPC-I-39A and spreadsheet KPC-IData1.xls. A hard copy is attached.



| 1965-03-01 | 4.21 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1965-04-01 | 4.20 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1965-05-01 | 4.21 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1965-06-01 | 4.21 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1965-07-01 | 4.20 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1965-08-01 | 4.25 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1965-09-01 | 4.29 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1965-10-01 | 4.35 |  |  |  |  |  |  |  |  |  |  |  |  |
| .1965-11.01 | 4.45 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1965-12-01 | 4.62 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1966-01-01 | 4.61 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1966-02-01 | 4.83 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1966-03-01 | 4.87 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1966-04-01 | 4.75 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1966-05-01 | 4.78 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1966-06-01 | 4.81 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1966-07-01 | 5.02 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1966-08-01 | 5.22 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1966-09-01 | 5.18 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1966-10-01 | 5.01 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1966-11-01 | 5.16 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1966-12-01 | 4.84 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1967-01-01 | 4.58 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1967-02-01 | 4.63 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1967-03-01 | 4.54 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1967-04-01 | 4.59 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1967-05-01 | 4.85 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1967-06-01 | 5.02 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1967-07-01 | 5.16 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1967-08-01 | 5.28 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1967-09-01 | 5.30 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1967-10-01 | 5.48 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1967-11-01 | 5.75 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1967-12-01 | 5.70 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1968-01-01 | 5.53 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1968-02-01 | 5.56 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1968-03-01 | 5.74 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1968-04-01 | 5.64 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1968-05-01 | 5.87 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1968-06-01 | 5.72 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1968-07-01 | 5.50 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1968-08-01 | 5.42 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1968-09-01 | 5.46 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1968-10-01 | 5.58 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1968-11-01 | 5.70 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1968-12-01 | 6.03 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-01-01 | 6.04 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-02-01 | 6.19 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-03-01 | 6.30 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-04-01 | 6.17 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-05-01 | 6.32 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-06-01 | 6.57 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-07-01 | 6.72 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-08-01 | 6.69 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-09-01 | 7.16 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-10-01 | 7.10 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-11-01 | 7.14 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-12-01 | 7.65 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-01-01 | 7.79 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-02-01 | 7.24 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-03-01 | 7.07 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-04-01 | 7.39 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-05-01 | 7.91 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-06-01 | 7.84 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-07-01 | 7.46 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-08-01 | 7.53 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-09-01 | 7.39 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-10-01 | 7.33 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-11-01 | 6.84 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-12-01 | 6.39 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-01-01 | 6.24 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-02-01 | 6.11 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-03-01 | 5.70 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-04-01 | 5.83 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-05-01 | 6.39 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-06-01 | 6.52 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-07-01 | 6.73 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-08-01 | 6.58 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-09-01 | 6.14 |  |  |  |  |  |  |  |  |  |  |  |  |


| 1971-10-01 | 5.93 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1971-11-01 | 5.81 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-12-01 | 5.93 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-01-01 | 5.95 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-02-01 | 6.08 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-03-01 | 6.07 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-04-011 | 6.19 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-05-01 | 6.13 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-06-01 | 6.11 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-07-01 | 6.11 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-08-01 | 6.21 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-09-01 | 6.55 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972 10-01 | 6.48 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-11-01 | 6.28 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-12-01 | 6.36 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-01-01 | 6.46 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-02-01 | 6.64 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-03-01 | 6.71 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-04-01 | 6.67 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-05-01 | 6.85 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-06-01 | 6.90 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-07-01 | 7.13 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-08-01 | 7.40 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-09-01 | 7.09 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-10-01 | 6.79 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-11-01 | 6.73 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-12-01 | 6.74 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-01-01 | 6.99 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-02-01 | 6.96 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-03-01 | 7.21 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-04-01 | 7.51 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-05-01 | 7.58 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-06-01 | 7.54 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-07-01 | 7.81 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-08-01 | 8.04 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-09-01 | 8.04 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-10-01 | 7.90 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-11-01 | 7.68 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-12-01 | 7.43 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1975-01-01 | 7.50 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1975-02-01 | 7.39 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1975-03-01 | 7.73 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1975-04-01 | 8.23 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1975-05-01 | 8.06 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1975-06-01 | 7.86 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1975-07-01 | 8.06 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1975-08-01 | 8.40 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1975-09-01 | 8.43 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1975-10-01 | 8.14 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1975-11-01 | 8.05 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1975-12-01 | 8.00 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976-01-01 | 7.74 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976-02-01 | 7.79 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976-03-01 | 7.73 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976-04-01 | 7.56 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976-05-01 | 7.90 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976-06-01 | 7.86 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976-07-01 | 7.83 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976-08-01 | 7.77 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976-09-01 | 7.59 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976-10-01 | 7.41 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976-11-01 | 7.29 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1976-12-01 | 6.87 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1977-01-01 | 7.21 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1977-02-01 | 7.39 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1977-03-01 | 7.46 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1977-04-01 | 7.37 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1977-05-01 | 7.46 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1977-06-01 | 7.28 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1977-07-01 | 7.33 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1977-08-01 | 7.40 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1977-09-01 | 7.34 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1977-10-01 | 7.52 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1977.11-01 | 7.58 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1977-12-01 | 7.69 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1978-01-01 | 7.96 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1978-02-01 | 8.03 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1978-03-01 | 8.04 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1978-04-01 | 8.15 |  |  |  |  |  |  |  |  |  |  |  |  |


| 1978-05-01 | 8.35 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1978-06-01 | 8.46 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1978-07-01 | 8.64 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1978-08-01 | 8.41 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1978-09-01 | 8.42 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1978-10-01 | 8.64 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1978-11-01 | 8.81 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1978-12-01 | 9.01 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1979-01-01 | 9.10 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1979-02-01 | 9.10 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1979-03-01 | 9.12 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1979-04-01 | 9.18 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1979-05-01 | 9.25 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1979-06-01 | 8.91 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1979-07-01 | 8.95 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1979-08-01 | 9.03 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1979-09-01 | 9.33 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1979-10-01 | 10.30 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1979-11-01 | 10.65 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1979-12-01 | 10.39 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1980-01-01 | 10.80 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1980-02-01 | 12.41 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1980-03-01 | 12.75 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1980-04-01 | 11.47 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1980-05-01 | 10.18 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1980-06-01 | 9.78 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1980-07-01 | 10.25 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1980-08-01 | 11.10 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1980-09-01 | 11.51 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1980-10-01 | 11.75 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1980-11-01 | 12.68 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1980-12-01 | 12.84 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1981-01-01 | 12.57 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1981-02-01 | 13.19 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1981-03-01 | 13.12 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1981-04-01 | 13.68 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1981-05-01 | 14.10 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1981-06-01 | 13.47 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1981-07.01 | 14.28 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1981-08-01 | 14.94 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1981-09-01 | 15.32 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1981-10-01 | 15.15 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1981-11-01 | 13.39 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1981-12-01 | 13.72 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1982-01-01 | 14.59 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1982-02-01 | 14.43 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1982-03-01 | 13.86 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1982-04-01 | 13.87 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1982-05-01 | 13.62 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1982-06-01 | 14.30 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1982-07-01 | 13.95 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1982-08-01 | 13.06 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1982-09-01 | 12.34 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1982-10-01 | 10.91 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1982-11-01 | 10.55 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1982-12-01 | 10.54 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1983-01-01 | 10.46 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1983-02-01 | 10.72 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1983-03-01 | 10.51 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1983-04-01 | 10.40 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1983-05-01 | 10.38 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1983-06-01 | 10.85 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1983-07-01 | 11.38 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1983-08-01 | 11.85 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1983-09-01 | 11.65 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1983-10-01 | 11.54 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1983-11-01 | 11.69 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1983-12-01 | 11.83 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1984-01-01 | 11.67 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1984-02-01 | 11.84 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1984-03-01 | 12.32 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1984-04-01 | 12.63 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1984-05-01 | 13.41 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1984-06-01 | 13.56 |  |  |  |  | . |  |  |  |  |  |  |  |
| 1984-07-01 | 13.36 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1984-08-01 | 12.72 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1984-09-01 | 12.52 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1984-10-01 | 12.16 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1984-11.01 | 11.57 |  |  |  |  |  |  |  |  |  |  |  |  |


| 1984-12-01 | 11.50 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1985-01-01 | 11.38 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1985-02-01 | 11.51 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1985-03-01 | 11.86 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1985-04-01 | 11.43 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1985-05-01 | 10.85 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1985-06-01 | 10.16 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1985-07-01 | 10.31 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1985-08-01 | 10.33 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1985-09-01 | 10.37 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1985-10-01 | 10.24 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1985-11-01 | 9.78 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1985-12-01 | 9,26 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1986-01-01 | 9.19 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1986-02-01 | 8.70 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1986-03-01 | 7.78 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1986-04-01 | 7.30 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1986-05-01 | 7.71 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1986-06-01 | 7.80 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1986-07-01 | 7.30 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1986-08-01 | 7.17 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1986-09-01 | 7.45 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1986-10-01 | 7.43 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1986-11-01 | 7.25 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1986-12-01 | 7.11 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1987-01-01 | 7.08 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1987-02-01 | 7.25 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1987-03-01 | 7.25 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1987-04.01 | 8.02 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1987-05-01 | 8.61 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1987-06-01 | 8.40 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1987-07-01 | 8.45 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1987-08-01 | 8.76 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1987-09-01 | 9.42 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1987-10-01 | 9.52 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1987-11-01 | 8.86 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1987-12-01 | 8.99 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1988-01-01 | 8.67 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1988-02-01 | 8.21 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1988-03-01 | 8.37 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1988-04-01 | 8.72 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1988-05-01 | 9.09 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1988-06-01 | 8.92 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1988-07-01 | 9.06 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1988-08-01 | 9.26 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1988-09-01 | 8.98 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1988-10-01 | 8.80 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1988-11-01 | 8.96 | - |  |  |  |  |  |  |  |  |  |  |  |
| 1988-12-01 | 9.11 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1989-01-01 | 9.09 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1989-02-01 | 9.17 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1989-03-01 | 9.36 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1989-04-01 | 9.18 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1989-05-01 | 8.86 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1989-06-01 | 8.28 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1989-07-01 | 8.02 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1989-08-01 | 8.11 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1989-09-01 | 8.19 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1989-10-01 | 8.01 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1989-11-01 | 7.87 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1989-12-01 | 7.84 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990-01-01 | 8.21 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990-02-01 | 8.47 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990-03-01 | 8.59 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990-04-01 | 8.79 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990-05-01 | 8.76 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990-06-01 | 8.48 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990-07-01 | 8.47 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990-08-01 | 8.75 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990-09-01 | 8.89 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990-10-01 | 8.72 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990-11-01 | 8.39 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1990-12-01 | 8.08 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991-01-01 | 8.09 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991-02-01 | 7.85 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991-03-01 | 8.11 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991-04-01 | 8.04 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991-05-01 | 8.07 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991-06-01 | 8.28 |  |  |  |  |  |  |  |  |  |  |  |  |


| 1991-07-01 | 8.27 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1991-08-01 | 7.90 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991-09-01 | 7.65 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991-10-01 | 7.53 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991-11-01 | 7.42 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1991-12-01 | 7.09 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992-01-01 | 7.03 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992.02-01 | 7.34 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992-03-01 | 7.54 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992-04-01 | 7.48 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992-05-01 | 7.39 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992-06-01 | 7.26 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992-07-01 | 6.84 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992-08-01 | 6.59 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992-09-01 | 6.42 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992-10-01 | 6.59 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992-11-01 | 6.87 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1992-12-01 | 6.77 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993-01-01 | 6.60 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993-02-01 | 6.26 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993-03-01 | 5.98 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993-04-01 | 5.97 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993-05-01 | 6.04 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993-06-01 | 5.96 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993-07-01 | 5.81 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993-08-01 | 5.68 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993-09-01 | 5.36 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993-10-01 | 5.33 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993-11-01 | 5.72 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1993-12-01 | 5.77 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994-01-01 | 5.75 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994-02-01 | 5.97 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994-03-01 | 6.48 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994-04-01 | 6.97 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994-05-01 | 7.18 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994-06-01 | 7.10 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994-07-01 | 7.30 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994-08-01 | 7.24 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994-09-01 | 7.46 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994-10-01 | 7.74 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994-11-01 | 7.96 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1994-12-01 | 7.81 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995-01-01 | 7.78 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995-02-01 | 7.47 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995-03-01 | 7.20 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995-04-01 | 7.06 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995-05-01 | 6.63 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995-06-01 | 6.17 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995-07-01 | 6.28 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995-08-01 | 6.49 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995-09-01 | 6.20 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995-10-01 | 6.04 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995-11-01 | 5.93 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1995-12-01 | 5.71 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1996-01-01 | 5.65 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1996-02-01 | 5.81 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1996-03-01 | 6.27 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1996-04-01 | 6.51 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1996-05-01 | 6.74 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1996-06-01 | 6.91 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1996-07-01 | 6.87 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1996-08-01 | 6.64 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1996-09-01 | 6.83 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1996-10-01 | 6.53 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1996-11-01 | 6.20 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1996-12-01 | 6.30 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1997-01-01 | 6.58 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1997-02-01 | 6.42 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1997-03-01 | 6.69 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1997-04-01 | 6.89 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1997-05-01 | 6.71 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1997-06-01 | 6.49 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1997-07-01 | 6.22 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1997-08-01 | 6.30 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1997-09-01 | 6.21 |  | - |  |  |  |  |  |  |  |  |  |  |
| 1997-10-01 | 6.03 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1997-11-01 | 5.88 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1997-12-01 | 5.81 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1998-01-01 | 5.54 |  |  |  |  |  |  |  |  |  |  |  |  |



| 2004-09-01 | 4.13 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2004-10-01 | 4.10 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2004-11-01 | 4.19 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2004-12-01 | 4.23 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2005-01-01 | 4.22 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2005-02-01 | 4.17 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2005-03-01 | 4.50 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2005-04-01 | 4.34 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2005-05-01 | 4.14 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2005-06-01 | 4.00 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2005-07-01 | 4.18 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2005-08-01 | 4.26 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2005-09-01 | 4.20 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2005-10-01 | 4.46 |  |  |  |  |  |  |  |  |  |  |  |  |



Response of the Attorney General to

# Initial Data Request of Kentucky Power Company to the Attorney General Kentucky Power Company <br> Case No. 2005-00341 

Respondent: OAG Witness Dr. J. Randall Woolridge

40. Please reference Woolridge testimony, at page 4, line 10. Please provide the yield spreads on Corporate Bonds rated Baa portrayed on the graph. The response should include both a hard copy and an electronic copy of the yields used to derive the spreads.

## Response

The data are provided electronically on CD under Attachments in KPC-I-40 A and under Spreadsheets in KPC-I-Data1.xls. A hard copy is attached.




| 1968-10-01 | 5.58 | 6.84 | Oct-68 | 1.26 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1968-11-01 | 5.70 | 7.01 | Nov-68 | 1.31 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1988-12-01 | 6.03 | 7.23 | Dec-68 | 1.20 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-01-01 | 6.04 | 7.32 | Jan-69 | 1.28 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-02-01 | 6.19 | 7.3 | Feb-69 | 1.11 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-03-01 | 6.30 | 7.51 | Mar-69 | 1.21 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-04-01 | 6.17 | 7.54 | Apr-69 | 1.37 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-05-01 | 6.32 | 7.52 | May-69 | 1.20 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-06-01 | 6.57 | 7.7 | Jun-69 | 1.13 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-07-01 | 6.72 | 7.84 | Jul-69 | 1.12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-08-01 | 6.69 | 7.86 | Aug-69 | 1.17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-09-01 | 7.16 | 8.05 | Sep-69 | 0.89 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-10-01 | 7.10 | 8.22 | Oct-69 | 1.12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-11-01 | 7.14 | 8.25 | Nov-69 | 1.11 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1969-12-01 | 7.65 | 8.65 | Dec-69 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-01-01 | 7.79 | 8.86 | Jan-70 | 1.07 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-02-01 | 7.24 | 8.78 | Feb-70 | 1.54 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-03-01 | 7.07 | 8.63 | Mar-70 | 1.56 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-04-01 | 7.39 | 8.7 | Apr-70 | 1.31 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-05-01 | 7.91 | 8.98 | May-70 | 1.07 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-06-01 | 7.84 | 9.25 | Jun-70 | 1.41 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-07-01 | 7.46 | 9.4 | Jul70 | 1.94 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-08-01 | 7.53 | 9.44 | Aug.70 | 1.91 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-09-01 | 7.39 | 9.39 | Sep-70 | 2.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-10-01 | 7.33 | 9.33 | Oct 70 | 2.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-11-01 | 6.84 | 9.38 | Nov-70 | 2.54 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1970-12-01 | 6.39 | 9.12 | Dec-70 | 2.73 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-01-01 | 6.24 | 8.74 | Jan-71 | 2.50 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-02-01 | 6.11 | 8.39 | Feb-71 | 2.28 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-03-01 | 5.70 | 8.46 | Mar-71 | 2.76 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-04-01 | 5.83 | 8.45 | Apr 71 | 2.62 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-05-01 | 6.39 | 8.62 | May-71 | 2.23 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-06-01 | 6.52 | 8.75 | Jun-71 | 2.23 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-07.01 | 6.73 | 8.76 | Jut 71 | 2.03 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-08-01 | 6.58 | 8.76 | Aug-71 | 2.18 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-09-01 | 6.14 | 8.59 | Sep-71 | 2.45 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-10-01 | 5.93 | 8.48 | Oct 71 | 2.55 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-11-01 | 5.81 | 8.38 | Nov-71 | 2.57 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1971-12-01 | 5.93 | 8.38 | Dec. 71 | 2.45 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-01-01 | 5.95 | 8.23 | Jan-72 | 2.28 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-02-01 | 6.08 | 8.23 | Feb-72 | 2.15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-03-01 | 6.07 | 8.24 | Mar-72 | 2.17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-04-01 | 6.19 | 8.24 | Apr-72 | 2.05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-05-01 | 6.13 | 8.23 | May-72 | 2.10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-06-01 | 6.11 | 8.2 | Jun-72 | 2.09 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-07.01 | 6.11 | 8.23 | Jui-72 | 2.12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-08-01 | 6.21 | 8.19 | Aug-72 | 1.98 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-09-01 | 6.55 | 8.09 | Sep-72 | 1.54 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-10-01 | 6.48 | 8.06 | $\mathrm{O}_{0} \mathrm{c}$-72 | 1.58 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-11-01 | 6.28 | 7.99 | Nov-72 | 1.71 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1972-12-01 | 6.36 | 7.93 | Dec-72 | 1.57 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-01-01 | 6.46 | 7.9 | Jan-73 | 1.44 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-02.01 | 6.64 | 7.97 | Feb-73 | 1.33 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-03-01 | 6.71 | 8.03 | Mar 73 | 1.32 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-04-01 | 6.67 | 8.09 | Apr-73 | 1.42 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-05-01 | 6.85 | 8.06 | May-73 | 1.21 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-06-01\| | 6.90 | 8.13 | Jun-73 | 1.23 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-08-01 | 7.40 | 8.85 | Aug ${ }^{\text {Jul } 73}$ | $\frac{1.11}{1.13}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-09-01 | 7.09 | 8.63 | Sep. 73 | 1.54 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-10-01 | 6.79 | 8.41 | Oct 73 | 1.62 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-11-01 | 6.73 | 8.42 | Nov-73 | 1.69 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1973-12-01 | 6.74 | 8.48 | Dec. 73 | 1.74 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-01-01 | 6.99 | 8.48 | Jan-74 | 1.49 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-02-01 | 6.96 | 8.53 | Feb-74 | 1.57 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-03-01 | 7.21 | $\frac{8.62}{8.87}$ | $\xrightarrow{\text { Mar-74 }}$ | 1.41 1.36 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1974-04-01 | 7.51 | 8.87 | Apr-74 | 1.36 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

