COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN ADJUSTMENT OF THE GAS)
RATES OF THE UNION LIGHT,) CASE NO. 2005-00042
HEAT AND POWER COMPANY)

NOTICE OF FILING AND CERTIFICATION OF SERVICE

I hereby give notice that in accord with the Order of April 28, 2005, I have filed the seven true copies of these Responses to the questions posed by Commission Staff in the Order of June 22, 2005, with the Executive Director of the Kentucky Public Service Commission at 211 Sower Boulevard, Frankfort, Kentucky, 40601 this the 6th day of July, 2005, and certify that this same day I have served the parties by overnight mailing a true copy, postage prepaid, to the following:

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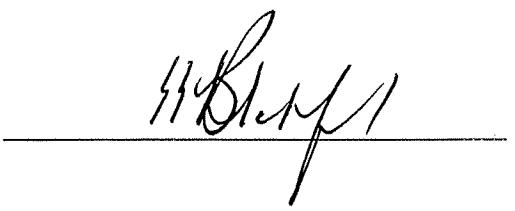

Response of the Attorney General to
Initial Data Request of Commission Staff to the Attorney General
Union Light Heat & Power Company
Case No. 2005-00042

Witness Responsible:
ROBERT J. HENKES

Question 1: Refer to the Direct Testimony of Robert J. Henkes ("Henkes Direct Testimony"), page 10. Given the testimony filed by Dr. J. Randall Woolridge on behalf of the AG, does Mr. Henkes still believe the overall rate of return as shown in his Schedule RJH-2 is preliminary and subject to change? Explain the response.

Response: No. All of the AG's recommended rate of return numbers shown on Mr. Henkes' Schedule RJH-2 are the same as those recommended by Dr. J. Randall Woolridge. The data shown on Schedule RJH-2 are no longer preliminary and subject to change.

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Witness Responsible:
ROBERT J. HENKES

Question 2: Refer to the Henkes Direct Testimony, pages 13 and 14.

a. Would Mr. Henkes agree that when determining the ratio of the gas jurisdictional rate base to the total company jurisdictional rate base, both rate bases should be determined in a consistent manner? Explain the response.

b. Would Mr. Henkes agree that a "slippage" factor adjustment to the electric jurisdictional rate base for The Union Light, Heat and Power Company ("ULH&P") could be necessary in order for the rate base ratio to be calculated on a comparable basis? Explain the response.

Response: Yes, Mr. Henkes would agree that when determining the ratio of the gas jurisdictional rate base to the total company jurisdictional rate base, the objective should be that both rate bases be determined in a consistent manner if sufficient data are available to make these calculations.

However, in the instant case, the only "slippage" factor data that are available are for the Company's jurisdictional gas construction program. They are not available for the Company's jurisdictional electric construction program. One cannot assume that any "slippage" factor that may exist for the electric construction program would be the same or even close to the "slippage" factor quantified in this case for the gas construction program. Mr. Henkes believes that the gas "slippage" factor quantified in this case should *not* be disregarded just because a "slippage" factor, if any, has not been quantified for the electric construction program.

See also Mr. Henkes' response to ULH&P Question 10.

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Witness Responsible:
ROBERT J. HENKES

Question 3: Refer to the Henkes Direct Testimony, page 19. Mr. Henkes states he calculated a slippage factor adjustment by applying the mathematic average non-Accelerated Main Replacement Program ("AMRP") slippage factor to the net plant in service growth from the end of the base period to the 13-month average for the forecasted period.

a. Would Mr. Henkes agree that a portion of the net plant in service growth includes plant associated with AMRP? Explain the response.

b. If the net plant in service growth includes plant associated with AMRP, explain why it would be appropriate to apply the non-AMRP slippage factor to determine the slippage factor adjustment.

Response: a. Yes. Evidence in the record indicates that the future test period ended September 30, 2006 includes projected plant additions that would otherwise be considered AMRP-eligible plant additions under Rider AMRP but which, in this case, represent plant additions to be recovered in base rates with no opportunity for dollar-for-dollar recovery and significantly reduced regulatory lag.

b. See Mr. Henkes' response to ULH&P Question 3.

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Witness Responsible:
ROBERT J. HENKES

Question 4: Refer to the Henkes Direct Testimony, page 21. Describe what data Mr. Henkes believes would have to be available in order to calculate the possible impact of the slippage factor adjustment on the depreciation reserve and accumulated deferred income tax ("ADIT") balances.

Response: In order to calculate the possible impact of the slippage factor adjustment on the depreciation reserve and ADIT balances, Mr. Henkes believes that, at a minimum, one would need the following kind of data: depreciation rates and associated depreciation expenses applicable to the slippage factor adjustment, the difference between the book and tax depreciation of the slippage factor adjustment, and the federal and KY state income tax rates.

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Witness Responsible:
ROBERT J. HENKES

Question 5: Refer to the Henkes Direct Testimony, page 26. Explain how the response to the Commission Staff's First Data Request dated February 15, 2005, Item 30, confirms that ULH&P does not carry ADIT balances associated with unbilled electric revenues on its books.

Response: The response to the Commission Staff's First Data Request dated February 15, 2005, Item 30 contains the Company's Trial Balance for the month of January 2005. Mr. Henkes has reviewed all of the ADIT accounts on this Trial Balance and found that any unbilled revenue related ADIT on this Trial Balance represents ADIT associated with Gas operation unbilled revenues. See page 8 of 20 of the response to PSC-1-30: the unbilled revenue ADIT balances in accounts 283350 (FIT) and 284350 (SIT) of $2,500,414 and $634,195, respectively, are both Total Company and Gas Operations ADIT balances. This means there are no Electric Operations ADIT balances for unbilled revenues in this January 2005 Trial Balance.

The response to the Commission Staff's First Data Request dated February 15, 2005, Item 30 was updated to include the Trial Balance for the month of March 2005. Mr. Henkes has reviewed all of the ADIT accounts on this updated Trial Balance for March 2005 and found that any unbilled revenue related ADIT on this Trial Balance represents ADIT associated with Gas operation unbilled revenues. See page 8 of 32 of the updated response to PSC-1-30: the unbilled revenue ADIT balances in accounts 283350 (FIT) and 284350 (SIT) of $1,596,749 and $450,959, respectively, are both Total Company and Gas Operations ADIT balances. This means there are no Electric Operations ADIT balances for unbilled revenues in this March 2005 Trial Balance.

Based on the above-described information, Mr. Henkes has assumed that the Company does not carry ADIT related to electric unbilled revenues on its books.

Mr. Henkes also notes that the Company and the Commission agreed with the AG in the prior rate case, Case No. 2001-092, that all unbilled revenue related ADIT should be removed for purposes of determining the gas jurisdictional and Total Company jurisdictional rate bases. The resulting ADIT adjustment was only made to the Gas ADIT rate base balance, not the Electric ADIT rate base balance. This indicates that, also in the prior case, the Company did not carry unbilled revenue related ADIT for its Electric operations.

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Witness Responsible:
ROBERT J. HENKES

Question 6: Refer to the Henkes Direct Testimony, page 32. Concerning Mr. Henkes' proposed weather normalization adjustment,

a. Explain why a recalculation of the adjustment using the heating degree day level of 5,133 wasn't performed.

b. Explain in detail why the proportional calculation proposed by Mr. Henkes is a reasonable means to determine this adjustment.

Response: a. A recalculation of the adjustment using the heating degree day level of 5,133 wasn't performed because Mr. Henkes did not believe the necessary data were available to him to perform these recalculations.

b. Based on the data available, which are shown on Schedule RJH-9, Mr. Henkes believes that the "proportional calculation" presented on Schedule RJH-9 is the best calculation methodology to approximate the impact of the AG's recommended weather normalization adjustment.

Mr. Henkes notes that he would accept the results of a detailed recalculation of the Company's proposed weather normalization adjustment using a heating degree day level of 5,133, if his review of these recalculations would indicate that the recalculations were performed correctly.

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Witness Responsible:
ROBERT J. HENKES

Question 7: Refer to the Henkes Direct Testimony, page 47. If the schedules filed by ULH&P to reflect the change in the Kentucky income tax rate reflect the use of the "average-rate assumption" method for the protected excess Kentucky deferred income taxes, would any further adjustments to operating income be required? Explain the response.

Response: As indicated in the response to AG-2-32, the amount of protected excess deferred income taxes relative to the Gas Operations resulting from the Kentucky income tax reductions amounts to $1,451,437. From the response to AG-2-32, Mr. Henkes understands that the Company amortized this $1,451,437 to income using the "average-rate assumption" method, and this "average-rate assumption" excess deferred tax amortization was presumably included in the Company's revised filing schedules (included in the response to PSC-2-21) to reflect the Kentucky income tax reductions. Thus, with regard to the *protected* excess Kentucky deferred income taxes, no further adjustments to operating income would be required.

Mr. Henkes notes that the above question refers to his testimony page 47 and on this page Mr. Henkes only discusses his recommended position with regard to the *unprotected* (rather than protected) excess Kentucky deferred income taxes. The response to AG-2-33 indicates that the Company has also used the "average-rate assumption" method to amortize its unprotected excess deferred taxes. On the other hand, Mr. Henkes has recommended that these unprotected Kentucky deferred income taxes be amortized over 5 years rather than through the "average-rate assumption" method. This has resulted in the income adjustment shown on line 14 of Mr. Henkes' Schedule RJH-8.

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Witness Responsible:
ROBERT J. HENKES

Question 8: Refer to the Henkes Direct Testimony, Schedule RJH-1, line 6.

a. Was Mr. Henkes aware that the uncollectible accounts component in the gross revenue conversion factor reflects the average discount rate used since February 2002 in the sale of ULH&P's accounts receivable rather than the percentage of uncollectible accounts?

b. Was Mr. Henkes aware that ULH&P has not recorded an uncollectible accounts expense since February 2002?

c. Does Mr. Henkes agree that the gross revenue conversion factor should reflect the average discount rate associated with the sale of ULH&P's accounts receivable? Explain the response.

Response: a. Mr. Henkes was aware that the uncollectible ratio included in the Gross Revenue Conversion Factor is 1.18% (Schedule H) and that this ratio reflects the average discount rate used since February 2002 (as shown on workpaper WPH-a) rather than the percentage of uncollectible accounts.

b. Mr. Henkes is somewhat confused on this issue. In the response to PSC-2-103, the Company states that "Beginning in February 2002, ULH&P sells its monthly accounts receivable balance to a special purpose entity, thus eliminating uncollectible accounts..." Yet the response to PSC-2-1, pages 1, 3 and 5 of 7, as well as Schedule C-2.1 show that the Company booked the following uncollectible expense levels in Account 904 – Uncollectible Accounts:

2002 (actual)	$ 922,000
2003 (actual)	$1,008,000
2004 (actual)	$1,174,000
Base Period	$1,225,134
Forecasted Period	$1,467,819

The response to PSC-2-1, pages 1, 3 and 5 of 7 shows that the actual total revenues for 2002 through 2004 are $81,707,000, 110,072,000 and $124,087,000, respectively. Taking the ratios of the above uncollectible expenses vs. the above total revenues would indicate uncollectible ratios for 2002 through 2004 of 1.13%, 0.915% and 0.946%, respectively. The total revenues for the base period are $124,614,134, which would indicate an uncollectible ratio of 0.983% for the base period. All of these ratios are below the uncollectible ratio of 1.18% claimed by the Company in its Gross Revenue Conversion Factor.

c. As a result of the confusing uncollectible information discussed in part b. above, Mr. Henkes chose not to address the issue in this case whether the

Response to Question 8, page 2 of 2:

Company's proposal to include an average discount rate of 1.18% in the Gross Revenue Conversion Factor is appropriate. Thus, the fact that Mr. Henkes did not adjust the 1.18% ratio in the Company's proposed Gross Revenue Conversion Factor does not mean that he agrees that the gross revenue conversion factor should reflect the average discount rate associated with the sale of ULH&P's accounts receivable.

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Initial Data Request of Commission Staff to the Attorney General
Union Light Heat & Power Company
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Witness Responsible:
ROBERT J. HENKES

Question 9: Refer to the Henkes Direct Testimony, Schedule RJH-5. Explain why Mr. Henkes believes it is appropriate to calculate the slippage factor adjustment on depreciation expense using a composite depreciation rate rather than adjusting the specific plant accounts impacted by the slippage factor.

Response: The slippage factor adjustment proposed by Mr. Henkes was calculated by applying the appropriate slippage factor to the *total* projected plant additions from the end of the base period to the 13-month average of the forecasted period. It was not possible to identify the slippage factor adjustment by specific plant accounts. Because of this, the most appropriate way to approximate the depreciation expense impact of the slippage factor adjustment is to apply the Company's composite depreciation rate to the plant in service slippage factor adjustment.

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Witness Responding: Michael J. Majoros, Jr.

10. Refer to the Direct Testimony of Michael J. Majoros, Jr. ("Majoros Direct Testimony"), page 4 of 40 and Exhibit MJM-2.
    a. Did Mr. Spanos' depreciation study workpapers show the separation of the proposed depreciation rates into a capital recovery component and a future cost of removal component? Explain the response.
    b. If the separation of the depreciation rates shown on Exhibit MJM-2 were the result of Mr. Majoros's calculations, explain in detail the procedure used to determine the separation.
    c. Provide all workpapers, assumptions, and other supporting documentation used to determine the amounts shown on Exhibit MJM-2. This information may be submitted in electronic form on a CD ROM.

Response:

a. No, Mr. Spanos' depreciation study did not show the separation of his proposed rates into capital recovery and cost of removal. The AG requested this separation in AG-DR-01-023 but Mr. Spanos and ULH&P declined to provide the calculation. Thus, Mr. Majoros made the calculation.

b. Mr. Majoros calculated the separation shown in Exhibit___(MJM-2). The specific procedures are shown in the column headings on pages 3-6 of Exhibit___(MJM-2). The accumulated depreciation account is separated on pages 7-8 of Exhibit___(MJM-2).

c. Sources are identified on the Exhibit. The Excel file is attached.

Response of the Attorney General to
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Witness Responding: Michael J. Majoros, Jr.

11. Throughout Mr. Majoros's testimony and exhibits are references to "SCE" and "SCE proposal." Identify SCE and explain why these references are contained in testimony on ULH&P's proposed depreciation rates.

Response:

The references to Southern California Edison ("SCE") in Mr. Majoros' exhibits are typographical errors, for which Mr. Majoros apologizes. Unfortunately, his quality control person was on vacation while his testimony and exhibits were being finalized.

Exhibit___(MJM-4) , Depreciation Concepts, contains a generic discussion of depreciation fundamentals. Mr. Majoros mistakenly used a version that had been prepared for use in another case, hence the SCE references.

Exhibits___(MJM-5), (MJM-6), (MJM-7) and (MJM-9) contain the words "Analysis of SCE Proposal" in the footer on several pages. This is a typographical error in the footer only. The analyses pertain to ULH&P.

Mr. Majoros was not able to find any references to SCE in his testimony or other exhibits.

Attached are corrected versions of the exhibits.

Depreciation Concepts

Public Utility Depreciation

From a regulator's perspective, the objective of public utility depreciation is straight-line capital recovery. This is accomplished by allocating the original cost of assets to expense over the lives of those assets through the application of depreciation rates to plant balances.

There are several unique factors driving public utility depreciation rates. First, public utility depreciation is based on a "group life" as opposed to the lives of individual assets. Second, the cost of removing or disposing of an asset that is retired from service is charged to the accumulated depreciation reserve, as opposed to being recognized as an operating expense in the year incurred. Third, the original cost of a retired asset is also recorded in the accumulated depreciation reserve, as opposed to being written off in the year of the asset's retirement/disposal. Fourth, in certain jurisdictions public utility depreciation rates incorporate net salvage factors as discussed above. This is not the case for unregulated entities. Each of these factors affects the depreciation rates that are ultimately determined for the group of assets that are recorded in plant accounts designated by the FERC Uniform System of Accounts ("USOA").

Depreciation expense is one of the primary cost drivers of public utility revenue requirement calculations because these companies are capital intensive. An excessive depreciation rate can unreasonably increase the utility's

revenue requirement and resulting service rates; thereby unnecessarily charging millions of dollars to a utility's customers.

Depreciation is a legitimate expense, but it is a major expense based on a substantial amount of judgment and complex analytical procedures, and it drives utility prices. Therefore, the measurement of depreciation and the calculation of the expense warrant careful regulatory consideration and scrutiny.

I discuss the fundamentals of public utility depreciation below, including the difference between the whole-life and remaining life techniques and the impact of life and net salvage estimation on depreciation rates.

Plant Additions, Retirements and Balances

Public utilities record their plant investment activity in the individual plant accounts set-forth in the Federal Energy Regulatory Commission's ("FERC") Uniform System of Accounts ("USOA"). Additions, retirements and balances refer to individual plant accounts. For example, account 331-Structures and Improvements, is a plant account. An annual addition is the original cost of plant added to the account during the year. An annual retirement is the original cost of a prior addition which is now removed from service. The plant balance is what is left.

Depreciation Expense

Depreciation expense is a charge to operating expense to reflect the recovery of the cost of an asset. Public utility depreciation expense is typically

straight-line over service life, which results in an equal share of the cost of assets being assigned or allocated to expense each year over the service life of the assets. A service life is the period of time during which depreciable plant [and equipment] is in service.[1] Annual depreciation expense is a cost included in a public utility's revenue requirement.

Annual depreciation expense is calculated by applying a depreciation rate to plant balances. The resulting expense (also called accrual) is charged, just as any other expense, to the revenue requirement and from there it is charged to the utility's customers.

Depreciation is a non-cash expense in contrast to payroll expense, for example, which involves the current outlay of cash. That is, depreciation expense does not involve a specific payment during the current or test-year. Both depreciation and payroll are included as expenses in the income statement and revenue requirement, but no cash flows out of the company for depreciation expense. Instead of reducing the cash account, depreciation expense is recorded on the income statement as an expense and simultaneously recorded on the balance sheet in the accumulated depreciation account; which is shown as an offset to plant in service.

Accumulated depreciation (hereinafter called reserve or accumulated depreciation) is, in essence, a record of the previously recorded depreciation expense. At any point in time, the accumulated depreciation account represents the net accumulated amount of the original cost of assets and net salvage that

[1] Public Utility Depreciation Practices, August, 1996. National Association of Regulatory Utility Commissioners ("NARUC Manual"), p. 321.

has been recovered to date. It can be considered a measure of the depreciation recovered from ratepayers.

Depreciation Rates

Depreciation rates such as ULH&P's are founded upon three fundamental parameters: a service life, a dispersion pattern and a net salvage ratio. ULH&P has used the remaining life technique to compute its rates. In order to understand remaining life depreciation, it is useful to first address whole-life depreciation.

Whole-Life Technique

The following calculation shows a straight-line whole-life depreciation rate assuming a 10-year average service life. This example does not include net salvage.

Table 1

Straight-Line Whole-Life Depreciation Rate
Assuming 10-Year Life

$$\frac{100\%}{10 \text{ yrs.}} = 10.0\%$$

Each year the 10.0 percent depreciation rate would be applied to plant in service to produce an annual depreciation expense. All things equal, at the end of 10 years, the plant balance will be 100%, and the depreciation reserve balance will be 100%. This equality is important to an understanding of certain issues in this case.

Some utilities, such as ULH&P, include net salvage in the depreciation rate calculation. A central issue in this case is negative net salvage. I will, therefore, use negative net salvage in my example. Negative net salvage is the net cost of removal of the asset after completion of its service life. For the remainder of this discussion I use the terms negative net salvage, decommissioning and cost of removal interchangeably. Assuming a negative 5 percent (-5%) net salvage ratio, the equation above with a value for negative net salvage is as follows:

Table 2

Straight-Line Whole-Life Depreciation Rate
Assuming 10-Year Life and -5% Net Salvage

$$\frac{100\%-(-5\%)}{10 \text{ yrs.}} = 10.5\%$$

Negative net salvage increases the resulting whole-life depreciation rate from 10.0% to 10.5%. This happens because negative salvage is, in effect, added to the original cost of the plant. Instead of 100% (which represents the original cost of assets), the numerator becomes 105%. This is equivalent to capitalizing or adding the estimated cost of removal to the original cost of the asset.

At the end of life under this scenario the plant balance will be 100% but the reserve will be 105%. In other words, unlike the "zero net salvage scenario" in Table 1; when negative net salvage is included in a depreciation rate there will not be an equality of plant and reserve at the end of an asset's life because the Company will have charged more depreciation than it paid for the original cost of the asset.

Under these circumstances, equality will only be achieved if the Company actually spends the additional money at the end of the asset's life. However, unless the Company has a legal liability to remove the asset, it is not required to spend the money. Furthermore, since accumulated depreciation is an "unfunded account", even though the Company collected unnecessary cost of removal amounts in the past, it will have already spent that money on whatever it chose: salaries, dividends, etc.

Remaining Life Technique

The remaining life technique is similar to the whole-life technique, but it incorporates accumulated depreciation into the numerator of the equation, and the denominator becomes the remaining life rather than the whole life of the asset.

If the hypothetical 10-year asset discussed above is 3 years old, its remaining life would be 7 years (10 – 3 = 7). The accumulated depreciation account would be 31.5 percent of the original cost because the 10.5 percent depreciation rate from Table 2 would have been applied for three years (3 x 10.5% = 31.5%). The remaining life depreciation rate would then be calculated as follows:

Table 3

Straight-Line Remaining Depreciation Life Rate
Assuming 10-year Life, 7-year Remaining Life
And -5% Net Salvage

$$\frac{100\% - (-5\%) - 31.5\%}{7 \text{ years}} = 10.5\%$$

In the examples shown in Tables 2 and 3, the remaining life depreciation rate and the whole-life depreciation rates are the same (10.5 percent), because I have assumed that the accumulated depreciation account is in balance. In other words, based on a continuation of the fundamental parameters, i.e., the 10-year service life and the negative 5 percent net salvage ratio, exactly the right amount of depreciation (31.5 percent) has been charged and collected in the past,

If either the service life or net salvage parameter changes during the life of the plant, the accumulated depreciation account will be out of balance, and the remaining life rate will be either higher or lower than whole-life rate depending on the direction of the imbalance. That is because the Company will have collected either too much depreciation or not enough depreciation in the past, given the current estimates of lives or future net salvage.

The difference between the actual amount recovered, as included in the book depreciation reserve, and a theoretical estimate of what should be in the book reserve, is called a "reserve imbalance." The remaining life technique is often used to deal with such reserve imbalances.

The remaining life technique has been accepted and used in many jurisdictions. Its primary failing is that if there is a reserve imbalance, positive or negative, it results in the application of an incorrect rate to new plant additions. In other words, the remaining life technique perpetuates the same imbalances it attempts to cure. This problem can be resolved by using whole-life rates and separate treatment for any reserve imbalances.

Impact of Life and Net Salvage Estimation

Utilities own thousands of assets, represented by millions of dollars of investment. Given the capital intensity of the industry, it is very difficult to track and depreciate every single asset that a utility owns. Public utility depreciation is, therefore, based on a group concept, which relies on averages of the service lives and remaining lives of the assets within a specific group.

These factors are necessarily estimates of the average service lives and average remaining lives of groups of assets. These estimates are in turn based on complex analytical procedures which involve not only the age of existing and retired assets, but also retirement dispersion patterns called "Iowa curves." The important point to remember is that service life, average age and Iowa curves are all used in the estimation of an average service life and average remaining life of a group of assets and are ultimately used to calculate the depreciation rate for that group of assets.

In depreciation analysis it is axiomatic that the shorter the life, the higher the resulting depreciation rate. If ULH&P's depreciation rates are based on lives which are too short, the depreciation rates will be too high. What if the 10-year life I used in the earlier examples really should have been 30 years? For example, assume that the analyst conducted statistical analyses which indicated that the average life is actually 30 years. The following table shows the impact of continuing to use a shorter life.

Table 4

Impact of Reducing a Life From 30 Years to 10 Years

30 year life = 100%/30 = 3.3%

10 year life = 100%/10 = 10.0%

If the life should have been 30 years, the rate should have been 3.3 percent rather than the 10 percent depreciation rate based on a 10 year life. The shorter the life, the higher the rate. If the life is too short, the resulting rate is obviously excessive.

The estimation of future net salvage also has an impact on depreciation rates. Many of ULH&P's proposed depreciation rates contain negative net salvage factors which charge too much for future cost of removal because they are too negative. They result in excessive depreciation rates. The next table shows the impact on depreciation rates of increasing the cost of removal ratio.

Table 5

Impact of Increasing Cost of Removal Ratio

-5% ratio = 100 %-(-5)/30 = 3.5 %

-50% ratio = 100 %-(-50)/30 = 5.0 %

Increasing a cost of removal ratio from -5% to -50% increases the depreciation rate from 3.5% to 5.0%. If the estimated -50% cost of removal ratio is not supportable, obviously, the resulting 5.0% depreciation rate is excessive. The combination of these two factors, i.e., understated lives and overstated cost of removal ratios, compounds the excessive depreciation rate problem.

Union Light, Heat and Power Company

205 - Structures and Improvements

KyPSC Staff Second Set Data Requests
ULH&P Case No. 2005-00042
Date Received: April 5, 2005
Response Due Date: April 19, 2005

KyPSC-DR-02-012

REQUEST:

12. Refer to the Application, Tab 34, page III-13. Concerning Account 2050, Structures and Improvements, the Iowa curve 50-R4 shifts inward while the plotted data points reflect essentially a straight line.

    a. Explain why ULH&P considers the Iowa curve 50-R4 to be the best match for this account.

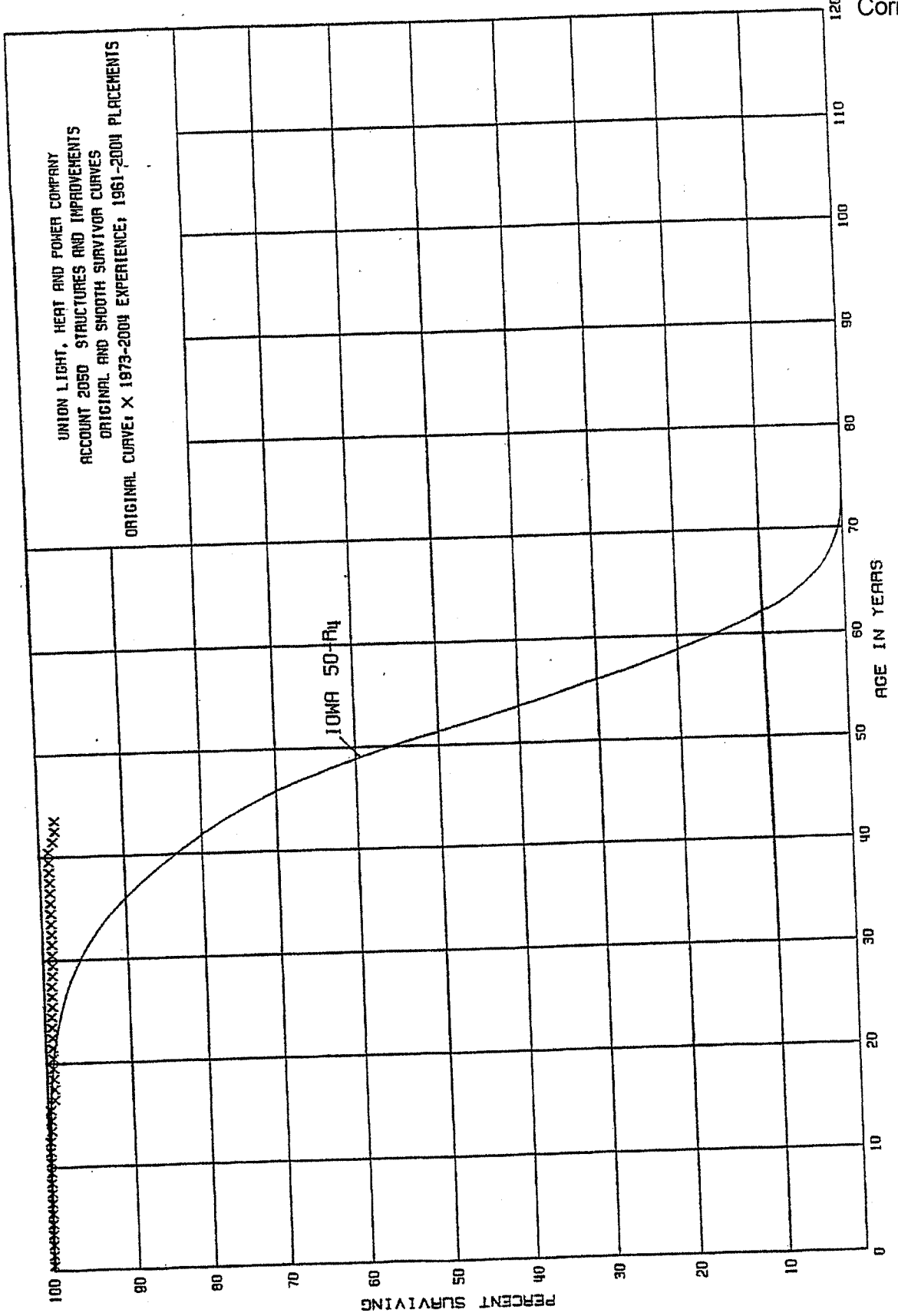
    b. Indicate whether an Iowa curve that provides a better match for this account exists and provide a copy of that curve.

RESPONSE:

a. The original survivor curve for Account 2050 does not have an Iowa curve that will reasonably match the points statistically. The 50-R4 Iowa curve was selected as the most reasonable estimate given the nature of the assets, the past estimate for this account, and the estimates by other utilities for similar assets. The 50-R4 was determined by judgment.

b. There is no Iowa curve that provides a better match statistically because the points basically are a straight line.

WITNESS RESPONSIBLE: John J. Spanos

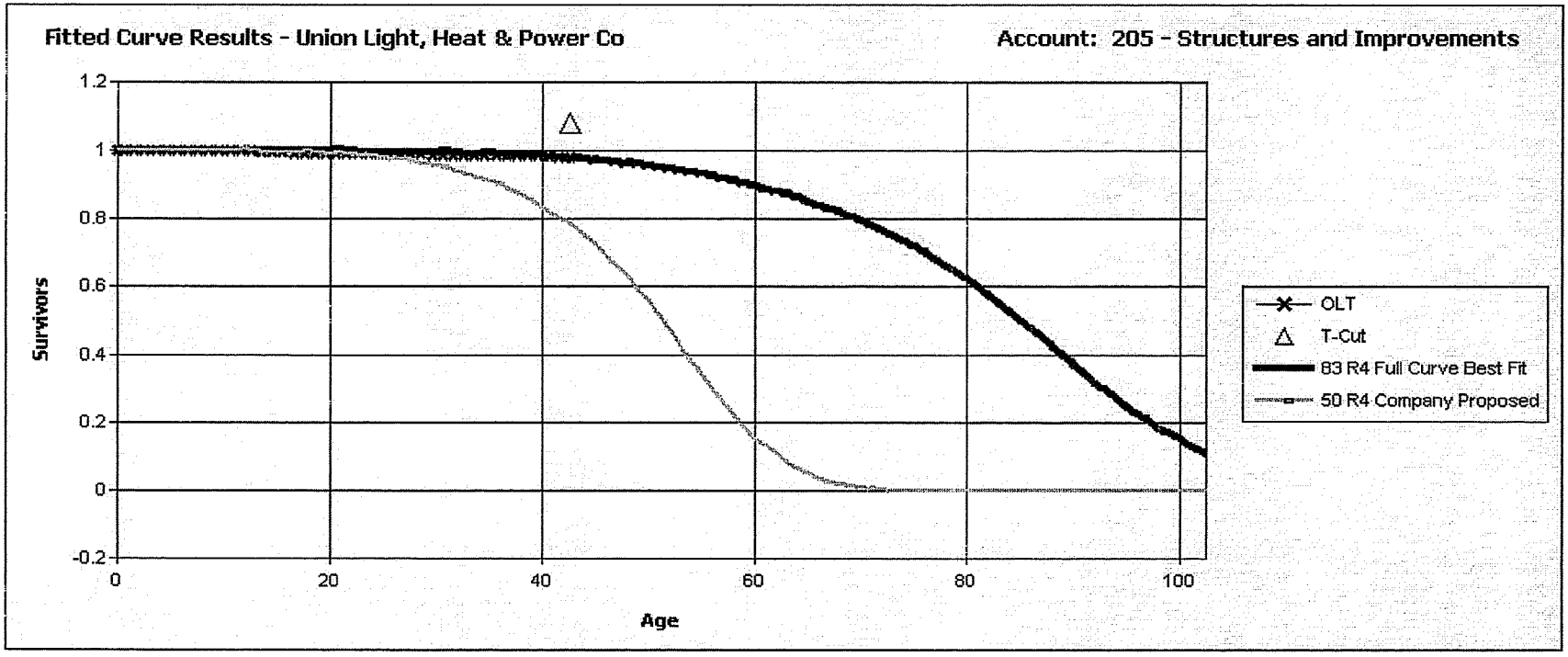

UNION LIGHT, HEAT AND POWER COMPANY
ACCOUNT 2050 STRUCTURES AND IMPROVEMENTS
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1973-2004 EXPERIENCE; 1961-2004 PLACEMENTS
IOWA 50-R4
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

Best Fit Curve Results
Union Light, Heat and Power Company
Account: 205 - Structures and Improvements

Curve	Life	Sum of Squared Differences
BAND	1973 - 2004	
R4	83.0	7.897
L3	100.0	8.846
S2	100.0	11.940
S3	82.0	12.938
L4	76.0	14.963
R5	61.0	17.925
S4	64.0	17.963
L5	62.0	19.800
S5	55.0	21.491
S6	50.0	24.155
R3	100.0	26.569
SQ	43.0	31.959
S1.5	100.0	73.910
L2	100.0	125.901
R2.5	100.0	170.624
S1	100.0	232.126
R2	100.0	455.551
L1.5	100.0	515.171
S0.5	100.0	691.078
R1.5	100.0	1,120.721
L1	100.0	1,188.965
R1	100.0	2,088.603
L0.5	100.0	2,528.267
S-0.5	100.0	3,197.735
R0.5	100.0	3,694.089
L0	100.0	4,410.907
O1	100.0	5,759.854
O2	100.0	7,393.884
O3	100.0	15,521.233
O4	100.0	27,894.886
S0	1.0	434,145.722

Analytical Parameters

OLT Placement Band:	1961 - 2004
OLT Experience Band:	1973 - 2004
Minimum Life Parameter:	1
Maximum Life Parameter:	100
Life Increment Parameter:	1
Max Age (T-Cut):	42.5



Analytical Parameters

OLT Placement Band:	1961 - 2004
OLT Experience Band:	1973 - 2004
Minimum Life Parameter:	1
Maximum Life Parameter:	100
Life Increment Parameter:	1
Max Age (T-Cut):	42.5

Observed Life Table Results
Union Light, Heat and Power Company
Account: 205 - Structures and Improvements

Age	Exposures	Retirements	Retirement Ratio (%)	Survivor Ratio (%)	Cumulative Survivors
BAND		1961 - 2004			
0	1,576,534	0	0.0000	100.0000	1.0000
0.5	1,458,342	0	0.0000	100.0000	1.0000
1.5	1,458,342	0	0.0000	100.0000	1.0000
2.5	1,406,852	0	0.0000	100.0000	1.0000
3.5	1,406,852	0	0.0000	100.0000	1.0000
4.5	1,380,385	0	0.0000	100.0000	1.0000
5.5	1,369,178	0	0.0000	100.0000	1.0000
6.5	1,367,768	0	0.0000	100.0000	1.0000
7.5	1,367,768	0	0.0000	100.0000	1.0000
8.5	1,367,768	0	0.0000	100.0000	1.0000
9.5	1,367,768	0	0.0000	100.0000	1.0000
10.5	1,367,768	0	0.0000	100.0000	1.0000
11.5	1,367,768	610	0.0446	99.9554	1.0000
12.5	1,367,158	3,739	0.2735	99.7265	0.9996
13.5	1,360,096	0	0.0000	100.0000	0.9968
14.5	1,311,084	0	0.0000	100.0000	0.9968
15.5	1,309,757	6,368	0.4862	99.5138	0.9968
16.5	1,303,389	0	0.0000	100.0000	0.9920
17.5	1,303,389	368	0.0282	99.9718	0.9920
18.5	1,296,792	0	0.0000	100.0000	0.9917
19.5	1,296,792	0	0.0000	100.0000	0.9917
20.5	1,296,792	0	0.0000	100.0000	0.9917
21.5	1,296,792	0	0.0000	100.0000	0.9917
22.5	1,296,792	0	0.0000	100.0000	0.9917
23.5	1,296,412	0	0.0000	100.0000	0.9917
24.5	1,296,412	1,479	0.1141	99.8859	0.9917
25.5	1,291,361	0	0.0000	100.0000	0.9906
26.5	1,291,361	0	0.0000	100.0000	0.9906
27.5	1,275,699	524	0.0411	99.9589	0.9906
28.5	1,275,175	1,958	0.1536	99.8464	0.9902
29.5	1,271,490	0	0.0000	100.0000	0.9886
30.5	1,266,810	0	0.0000	100.0000	0.9886
31.5	1,258,620	0	0.0000	100.0000	0.9886
32.5	1,251,978	0	0.0000	100.0000	0.9886
33.5	1,228,315	0	0.0000	100.0000	0.9886
34.5	1,217,879	0	0.0000	100.0000	0.9886
35.5	1,217,879	0	0.0000	100.0000	0.9886
36.5	1,217,879	0	0.0000	100.0000	0.9886
37.5	1,217,879	0	0.0000	100.0000	0.9886
38.5	1,217,879	0	0.0000	100.0000	0.9886
39.5	1,217,879	0	0.0000	100.0000	0.9886
40.5	1,217,879	5,862	0.4813	99.5187	0.9886
41.5	1,210,276	4,143	0.3423	99.6577	0.9839
42.5	1,206,133	0	0.0000	100.0000	0.9805

Observed Life Table Results
Union Light, Heat and Power Company
Account: 205 - Structures and Improvements

Age	Exposures	Retirements	Retirement Ratio (%)	Survivor Ratio (%)	Cumulative Survivors
BAND		1973 - 2004			
0	315,781	0	0.0000	100.0000	1.0000
0.5	204,232	0	0.0000	100.0000	1.0000
1.5	227,896	0	0.0000	100.0000	1.0000
2.5	183,744	0	0.0000	100.0000	1.0000
3.5	183,744	0	0.0000	100.0000	1.0000
4.5	157,277	0	0.0000	100.0000	1.0000
5.5	146,070	0	0.0000	100.0000	1.0000
6.5	144,660	0	0.0000	100.0000	1.0000
7.5	144,660	0	0.0000	100.0000	1.0000
8.5	144,660	0	0.0000	100.0000	1.0000
9.5	146,769	0	0.0000	100.0000	1.0000
10.5	146,769	0	0.0000	100.0000	1.0000
11.5	1,367,768	610	0.0446	99.9554	1.0000
12.5	1,367,158	3,739	0.2735	99.7265	0.9996
13.5	1,360,096	0	0.0000	100.0000	0.9968
14.5	1,311,084	0	0.0000	100.0000	0.9968
15.5	1,309,757	6,368	0.4862	99.5138	0.9968
16.5	1,303,389	0	0.0000	100.0000	0.9920
17.5	1,303,389	368	0.0282	99.9718	0.9920
18.5	1,296,792	0	0.0000	100.0000	0.9917
19.5	1,296,792	0	0.0000	100.0000	0.9917
20.5	1,296,792	0	0.0000	100.0000	0.9917
21.5	1,296,792	0	0.0000	100.0000	0.9917
22.5	1,296,792	0	0.0000	100.0000	0.9917
23.5	1,296,412	0	0.0000	100.0000	0.9917
24.5	1,296,412	1,479	0.1141	99.8859	0.9917
25.5	1,291,361	0	0.0000	100.0000	0.9906
26.5	1,291,361	0	0.0000	100.0000	0.9906
27.5	1,275,699	524	0.0411	99.9589	0.9906
28.5	1,275,175	1,958	0.1536	99.8464	0.9902
29.5	1,271,490	0	0.0000	100.0000	0.9886
30.5	1,266,810	0	0.0000	100.0000	0.9886
31.5	1,258,620	0	0.0000	100.0000	0.9886
32.5	1,251,978	0	0.0000	100.0000	0.9886
33.5	1,228,315	0	0.0000	100.0000	0.9886
34.5	1,217,879	0	0.0000	100.0000	0.9886
35.5	1,217,879	0	0.0000	100.0000	0.9886
36.5	1,217,879	0	0.0000	100.0000	0.9886
37.5	1,217,879	0	0.0000	100.0000	0.9886
38.5	1,217,879	0	0.0000	100.0000	0.9886
39.5	1,217,879	0	0.0000	100.0000	0.9886
40.5	1,217,879	5,862	0.4813	99.5187	0.9886
41.5	1,210,276	4,143	0.3423	99.6577	0.9839
42.5	1,206,133	0	0.0000	100.0000	0.9805

Union Light, Heat and Power Co.

205 - Structures and Improvements

Calculation of Remaining Life
Based Upon Equal Life Group Procedures
Related to Original Cost as of December 31, 2004

Survivor Curve .. IOWA: 83 R4

Year (1)	Age (2)	Surviving Investment (3)	ELG Average Service Life (4)	ELG Average Remaining Life (5)	ASL Weights (6)=(3)/(4)	RL Weights (7)=(6)*(5)
2004	0.5	118,191	77.94	77.44	1,516	117,433
2003	1.5	0	78.01	76.51	0	0
2002	2.5	51,490	78.05	75.55	660	49,841
2001	3.5	0	78.08	74.58	0	0
2000	4.5	26,467	78.11	73.61	339	24,942
1999	5.5	11,207	78.13	72.63	143	10,418
1998	6.5	4,507	78.16	71.66	58	4,132
1997	7.5	0	78.18	70.68	0	0
1996	8.5	0	78.21	69.71	0	0
1995	9.5	0	78.23	68.73	0	0
1994	10.5	0	78.26	67.76	0	0
1993	11.5	0	78.29	66.79	0	0
1992	12.5	0	78.31	65.81	0	0
1991	13.5	3,324	78.35	64.85	42	2,751
1990	14.5	49,012	78.38	63.88	625	39,945
1989	15.5	1,326	78.41	62.91	17	1,064
1988	16.5	0	78.45	61.95	0	0
1987	17.5	0	78.49	60.99	0	0
1986	18.5	6,229	78.53	60.03	79	4,762
1985	19.5	0	78.57	59.07	0	0
1984	20.5	0	78.62	58.12	0	0
1983	21.5	0	78.67	57.17	0	0
1982	22.5	0	78.72	56.22	0	0
1981	23.5	380	78.78	55.28	5	267
1980	24.5	0	78.84	54.34	0	0
1979	25.5	3,573	78.90	53.40	45	2,418
1978	26.5	0	78.97	52.47	0	0
1977	27.5	15,662	79.04	51.54	198	10,213
1976	28.5	0	79.12	50.62	0	0
1975	29.5	1,727	79.20	49.70	22	1,084
1974	30.5	4,680	79.28	48.78	59	2,880
1973	31.5	8,189	79.37	47.87	103	4,939
1972	32.5	6,643	79.47	46.97	84	3,926
1971	33.5	23,663	79.57	46.07	297	13,701

Union Light, Heat and Power Co.

205 - Structures and Improvements

Calculation of Remaining Life
Based Upon Equal Life Group Procedures
Related to Original Cost as of December 31, 2004

Survivor Curve .. IOWA: 83 R4

Year	Age	Surviving Investment	ELG Average Service Life	ELG Average Remaining Life	ASL Weights	RL Weights
(1)	(2)	(3)	(4)	(5)	(6)=(3)/(4)	(7)=(6)*(5)
1970	34.5	10,436	79.68	45.18	131	5,917
1969	35.5	0	79.80	44.30	0	0
1968	36.5	0	79.92	43.42	0	0
1967	37.5	0	80.04	42.54	0	0
1966	38.5	0	80.18	41.68	0	0
1965	39.5	0	80.32	40.82	0	0
1964	40.5	0	80.46	39.96	0	0
1963	41.5	1,741	80.62	39.12	22	845
1962	42.5	0	80.78	38.28	0	0
1961	43.5	1,206,133	80.95	37.45	14,900	558,003
		1,554,581			19,345	859,481

AVERAGE SERVICE LIFE 80.4
AVERAGE REMAINING LIFE 44.4

Union Light, Heat and Power Company

211 - Liquid Petroleum Gas Equipment

KyPSC Staff Second Set Data Requests
ULH&P Case No. 2005-00042
Date Received: April 5, 2005
Response Due Date: April 19, 2005

KyPSC-DR-02-013

REQUEST:

13. Refer to the Application, Tab 34, page III-16. Concerning Account 2110, Liquid Petroleum Gas Equipment, the Iowa curve 35-S1.5 does not appear to represent a good match to the survival intervals.

    a. Indicate whether an Iowa curve that provides a better match for this account exists and provide a copy of that curve.

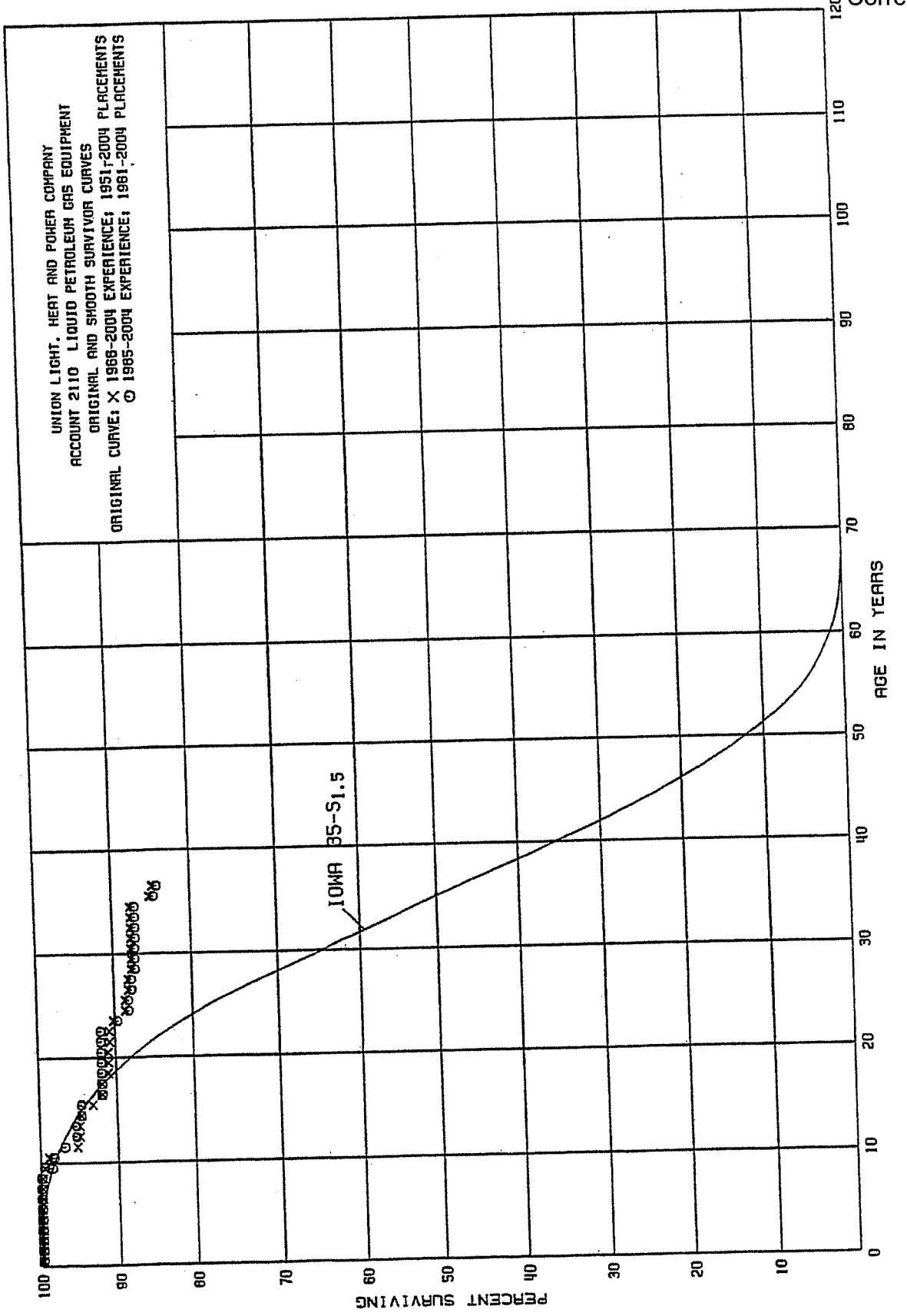
    b. Would ULH&P agree that if a better fitting Iowa curve is chosen for Account 2110, the depreciation rate would be lower than the 2.45 percent proposed in the depreciation study? Explain the response.

RESPONSE:

a. There are possible Iowa curves that would statistically match the original survivor curve better than the 35-S1.5; however, determining the most appropriate survivor curve for each account is more than just a statistical match. The 35-S1.5 curve was determined to be the most appropriate Iowa curve for this account because the average service life and survivor curve combination is the best estimation of life characteristics of the assets within the account. The life and curve combination is comparable to estimates of other electric utilities as well.

b. I would not agree that all other possible Iowa curves would lower the 2.45% depreciation rate for Account 2110. There are many survivor curves with a high mode that could produce a higher rate depending on the average service life and the surviving age distribution at the time of calculation.

WITNESS RESPONSIBLE: John J. Spanos


UNION LIGHT, HEAT AND POWER COMPANY
ACCOUNT 2110 LIQUID PETROLEUM GAS EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1968-2004 EXPERIENCE; 1951-2004 PLACEMENTS
© 1965-2004 EXPERIENCE; 1981-2004 PLACEMENTS
IOWA 35-S1.5
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

Observed Life Table Results
Union Light, Heat and Power Company
Account: 211 - Liquid Petroleum Gas Equipment

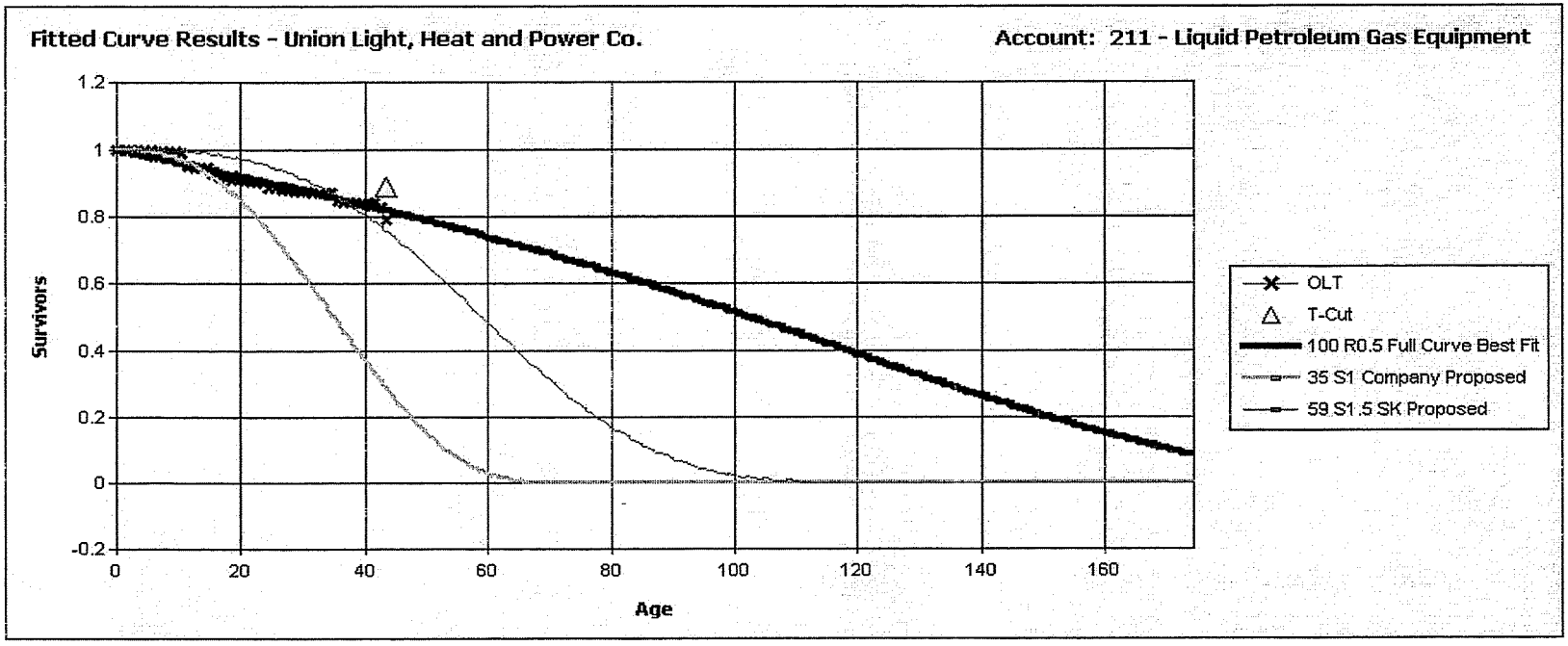
Age	Exposures	Retiremen	Retirement Ratio (%)	Survivor Ratio (%)	Cumulative Survivors
BAND		1951 - 2004			
0	3,972,911	0	0.0000	100.0000	1.0000
0.5	3,497,923	0	0.0000	100.0000	1.0000
1.5	3,039,203	0	0.0000	100.0000	1.0000
2.5	2,536,994	0	0.0000	100.0000	1.0000
3.5	2,536,994	0	0.0000	100.0000	1.0000
4.5	2,179,018	3,235	0.1485	99.8515	1.0000
5.5	2,130,019	644	0.0302	99.9698	0.9985
6.5	2,088,225	0	0.0000	100.0000	0.9982
7.5	2,057,818	515	0.0250	99.9750	0.9982
8.5	1,983,934	5,075	0.2558	99.7442	0.9980
9.5	1,977,708	12,419	0.6280	99.3720	0.9954
10.5	1,963,804	71,731	3.6526	96.3474	0.9892
11.5	1,881,193	7,838	0.4166	99.5834	0.9530
12.5	1,847,714	0	0.0000	100.0000	0.9491
13.5	1,847,714	5,511	0.2983	99.7017	0.9491
14.5	1,842,203	28,691	1.5574	98.4426	0.9462
15.5	1,753,413	25,272	1.4413	98.5587	0.9315
16.5	1,728,140	0	0.0000	100.0000	0.9181
17.5	1,700,952	15,248	0.8964	99.1036	0.9181
18.5	1,685,705	1,767	0.1048	99.8952	0.9098
19.5	1,683,938	0	0.0000	100.0000	0.9089
20.5	1,672,906	3,155	0.1886	99.8114	0.9089
21.5	1,669,750	0	0.0000	100.0000	0.9072
22.5	1,669,750	10,907	0.6532	99.3468	0.9072
23.5	1,651,682	29,612	1.7928	98.2072	0.9012
24.5	1,563,717	0	0.0000	100.0000	0.8851
25.5	1,498,162	7,716	0.5150	99.4850	0.8851
26.5	1,485,467	0	0.0000	100.0000	0.8805
27.5	1,477,841	8,627	0.5838	99.4162	0.8805
28.5	1,454,830	0	0.0000	100.0000	0.8754
29.5	1,341,331	0	0.0000	100.0000	0.8754
30.5	1,319,443	925	0.0701	99.9299	0.8754
31.5	1,318,518	0	0.0000	100.0000	0.8748
32.5	1,291,491	0	0.0000	100.0000	0.8748
33.5	1,212,759	0	0.0000	100.0000	0.8748
34.5	1,212,759	34,828	2.8718	97.1282	0.8748
35.5	1,177,931	5,162	0.4382	99.5618	0.8497
36.5	1,169,307	0	0.0000	100.0000	0.8459
37.5	1,169,307	0	0.0000	100.0000	0.8459
38.5	1,158,784	0	0.0000	100.0000	0.8459
39.5	1,156,764	0	0.0000	100.0000	0.8459
40.5	1,154,737	1,722	0.1491	99.8509	0.8459
41.5	1,153,015	22,398	1.9425	98.0575	0.8447
42.5	1,130,617	50,879	4.5001	95.4999	0.8283
43.5	0	0	0.0000	100.0000	0.7910

Best Fit Curve Results
Union Light, Heat & Power Co
Account: 211 - Liquid Petroleum Gas Equipment

Curve	Life	Sum of Squared Differences
BAND	**1966 - 2004**	
R0.5	100.0	90.187
S-0.5	95.0	97.677
R1	81.0	98.101
R1.5	69.0	138.208
L0	100.0	150.070
L0.5	91.0	172.508
R2	61.0	266.967
S0.5	70.0	317.992
O1	100.0	327.415
L1	79.0	341.843
R2.5	56.0	438.522
L1.5	70.0	470.029
S1	63.0	553.659
S1.5	59.0	738.056
O2	100.0	757.493
R3	53.0	759.146
L2	64.0	784.661
S2	56.0	1,072.602
L3	56.0	1,314.720
R4	49.0	1,444.205
S3	52.0	1,646.999
L4	50.0	1,818.804
S4	48.0	2,379.050
R5	47.0	2,484.227
L5	48.0	2,536.748
S5	47.0	3,023.522
S6	45.0	3,569.829
O3	100.0	4,395.189
SQ	44.0	4,837.586
O4	100.0	12,009.786
S0	1.0	378,490.962

Analytical Parameters

OLT Placement Band:	1951 - 2004
OLT Experience Band:	1966 - 2004
Minimum Life Parameter:	1
Maximum Life Parameter:	100
Life Increment Parameter:	1
Max Age (T-Cut):	43.5



Analytical Parameters

OLT Placement Band:	1951 - 2004
OLT Experience Band:	1966 - 2004
Minimum Life Parameter:	1
Maximum Life Parameter:	100
Life Increment Parameter:	1
Max Age (T-Cut):	43.5

Observed Life Table Results
Union Light, Heat and Power Company
Account: 211 - Liquid Petroleum Gas Equipment

Age	Exposures	Retiremen	Retirement Ratio (%)	Survivor Ratio (%)	Cumulative Survivors
BAND		1966 - 2004			
0	2,625,144	0	0.0000	100.0000	1.0000
0.5	2,152,177	0	0.0000	100.0000	1.0000
1.5	1,695,483	0	0.0000	100.0000	1.0000
2.5	1,193,275	0	0.0000	100.0000	1.0000
3.5	1,193,275	0	0.0000	100.0000	1.0000
4.5	2,175,863	3,235	0.1487	99.8513	1.0000
5.5	2,126,863	644	0.0303	99.9697	0.9985
6.5	2,085,070	0	0.0000	100.0000	0.9982
7.5	2,054,663	515	0.0250	99.9750	0.9982
8.5	1,980,778	5,075	0.2562	99.7438	0.9980
9.5	1,974,553	12,419	0.6290	99.3710	0.9954
10.5	1,960,649	71,731	3.6585	96.3415	0.9891
11.5	1,878,037	7,838	0.4173	99.5827	0.9530
12.5	1,844,559	0	0.0000	100.0000	0.9490
13.5	1,844,559	5,511	0.2988	99.7012	0.9490
14.5	1,842,203	28,691	1.5574	98.4426	0.9461
15.5	1,753,413	25,272	1.4413	98.5587	0.9314
16.5	1,728,140	0	0.0000	100.0000	0.9180
17.5	1,700,952	15,248	0.8964	99.1036	0.9180
18.5	1,685,705	1,767	0.1048	99.8952	0.9098
19.5	1,683,938	0	0.0000	100.0000	0.9088
20.5	1,672,906	3,155	0.1886	99.8114	0.9088
21.5	1,669,750	0	0.0000	100.0000	0.9071
22.5	1,669,750	10,907	0.6532	99.3468	0.9071
23.5	1,651,682	29,612	1.7928	98.2072	0.9012
24.5	1,563,717	0	0.0000	100.0000	0.8850
25.5	1,498,162	7,716	0.5150	99.4850	0.8850
26.5	1,485,467	0	0.0000	100.0000	0.8804
27.5	1,477,841	8,627	0.5838	99.4162	0.8804
28.5	1,454,830	0	0.0000	100.0000	0.8753
29.5	1,341,331	0	0.0000	100.0000	0.8753
30.5	1,319,443	925	0.0701	99.9299	0.8753
31.5	1,318,518	0	0.0000	100.0000	0.8747
32.5	1,291,491	0	0.0000	100.0000	0.8747
33.5	1,212,759	0	0.0000	100.0000	0.8747
34.5	1,212,759	34,828	2.8718	97.1282	0.8747
35.5	1,177,931	5,162	0.4382	99.5618	0.8496
36.5	1,169,307	0	0.0000	100.0000	0.8459
37.5	1,169,307	0	0.0000	100.0000	0.8459
38.5	1,158,784	0	0.0000	100.0000	0.8459
39.5	1,156,764	0	0.0000	100.0000	0.8459
40.5	1,154,737	1,722	0.1491	99.8509	0.8459
41.5	1,153,015	22,398	1.9425	98.0575	0.8446
42.5	1,130,617	50,879	4.5001	95.4999	0.8282
43.5	0	0	0.0000	100.0000	0.7909

Union Light, Heat and Power Co.

211 - Liquid Petroleum Gas Equipment

Calculation of Remaining Life
Based Upon Equal Life Group Procedures
Related to Original Cost as of December 31, 2004

Survivor Curve .. IOWA: 59 S1.5

			ELG Average			
Year	Age	Surviving Investment	Service Life	Remaining Life	ASL Weights	RL Weights
(1)	(2)	(3)	(4)	(5)	(6)=(3)/(4)	(7)=(6)*(5)
2004	0.5	474,987	48.98	48.48	9,697	470,138
2003	1.5	458,721	49.02	47.52	9,357	444,685
2002	2.5	502,208	49.09	46.59	10,231	476,632
2001	3.5	0	49.18	45.68	0	0
2000	4.5	357,976	49.28	44.78	7,263	325,291
1999	5.5	45,764	49.41	43.91	926	40,670
1998	6.5	41,150	49.56	43.06	830	35,752
1997	7.5	30,407	49.72	42.22	612	25,820
1996	8.5	73,370	49.90	41.40	1,470	60,872
1995	9.5	1,150	50.09	40.59	23	932
1994	10.5	1,485	50.30	39.80	30	1,175
1993	11.5	10,880	50.53	39.03	215	8,404
1992	12.5	25,641	50.77	38.27	505	19,328
1991	13.5	0	51.02	37.52	0	0
1990	14.5	0	51.30	36.80	0	0
1989	15.5	60,099	51.58	36.08	1,165	42,039
1988	16.5	0	51.87	35.37	0	0
1987	17.5	27,188	52.19	34.69	521	18,071
1986	18.5	0	52.51	34.01	0	0
1985	19.5	0	52.85	33.35	0	0
1984	20.5	11,032	53.20	32.70	207	6,781
1983	21.5	0	53.56	32.06	0	0
1982	22.5	0	53.94	31.44	0	0
1981	23.5	7,162	54.33	30.83	132	4,064
1980	24.5	58,353	54.73	30.23	1,066	32,231
1979	25.5	65,555	55.14	29.64	1,189	35,239
1978	26.5	4,980	55.56	29.06	90	2,605
1977	27.5	7,626	56.00	28.50	136	3,881
1976	28.5	14,384	56.45	27.95	255	7,122
1975	29.5	113,499	56.90	27.40	1,995	54,659
1974	30.5	21,887	57.37	26.87	381	10,252
1973	31.5	0	57.85	26.35	0	0
1972	32.5	27,027	58.34	25.84	463	11,971
1971	33.5	78,733	58.84	25.34	1,338	33,906

Union Light, Heat and Power Co.

211 - Liquid Petroleum Gas Equipment

Calculation of Remaining Life
Based Upon Equal Life Group Procedures
Related to Original Cost as of December 31, 2004

Survivor Curve .. IOWA: 59 S1.5

Year (1)	Age (2)	Surviving Investment (3)	ELG Average Service Life (4)	ELG Average Remaining Life (5)	ASL Weights (6)=(3)/(4)	RL Weights (7)=(6)*(5)
1970	34.5	0	59.35	24.85	0	0
1969	35.5	0	59.86	24.36	0	0
1968	36.5	3,463	60.39	23.89	57	1,370
1967	37.5	0	60.93	23.43	0	0
1966	38.5	10,523	61.47	22.97	171	3,932
1965	39.5	2,020	62.03	22.53	33	734
1964	40.5	2,027	62.59	22.09	32	715
1963	41.5	0	63.16	21.66	0	0
1962	42.5	0	63.73	21.23	0	0
1961	43.5	1,079,738	64.32	20.82	16,787	349,494
1960	44.5	0	64.91	20.41	0	0
1959	45.5	0	65.51	20.01	0	0
1958	46.5	0	66.12	19.62	0	0
1957	47.5	0	66.73	19.23	0	0
1956	48.5	0	67.35	18.85	0	0
1955	49.5	0	67.98	18.48	0	0
1954	50.5	0	68.61	18.11	0	0
1953	51.5	0	69.25	17.75	0	0
1952	52.5	0	69.89	17.39	0	0
1951	53.5	0	70.54	17.04	0	0
		3,619,035			67,179	2,528,764

AVERAGE SERVICE LIFE 53.9
AVERAGE REMAINING LIFE 37.6

Union Light, Heat and Power Company

274.1 - Rights of Way - General

KyPSC Staff Second Set Data Requests
ULH&P Case No. 2005-00042
Date Received: April 5, 2005
Response Due Date: April 19, 2005

KyPSC-DR-02-014

REQUEST:

14. Refer to the Application, Tab 34, page III-21. Concerning Account 2741, Rights of Way, the Iowa curve 65-R4 shifts inward while the plotted data points reflect a constant straight line.

    a. Explain why ULH&P considers the Iowa curve 65-R4 to be the best match for this account.

    b. Would ULH&P agree that an Iowa curve with a better match would result in a depreciation rate lower than the proposed 1.39 percent? Explain the response.

    c. Indicate whether an Iowa curve that provides a better match for this account exists and provide a copy of that curve.

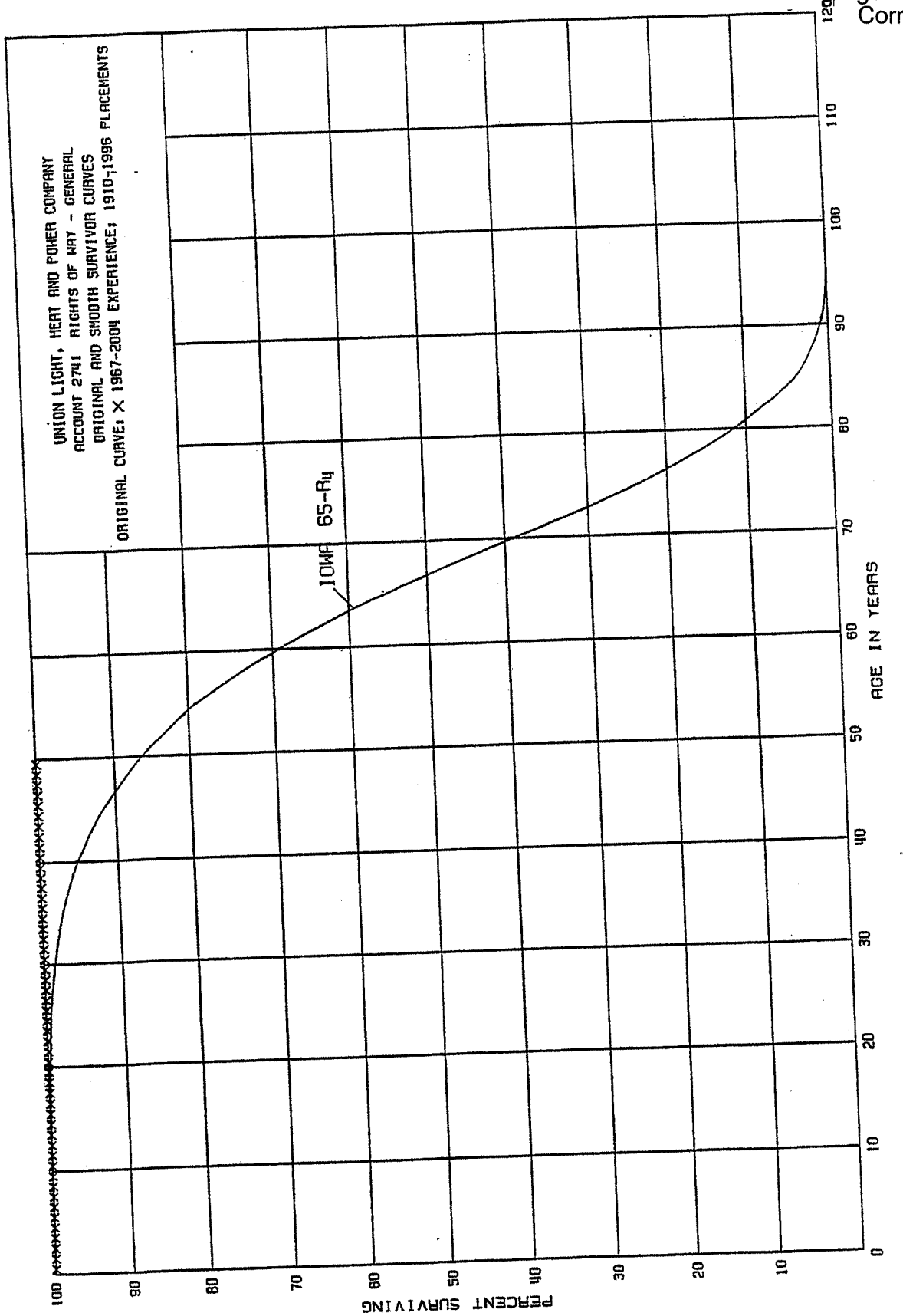
RESPONSE:

a. There is no Iowa curve that will statistically match the original curve for Account 2741. The 65-R4 was selected based on judgment, given the nature of the assets, the past estimate for this account, and the estimates by other utilities for similar assets.

b. There is no Iowa curve that would better match the original survivor curve; therefore, there are many combinations that could produce a lower depreciation rate than the proposed 1.39% and many combinations that could produce a higher depreciation rate. The Iowa curve for this account can only be determined by judgment.

c. See response to KyPSC-DR-02-014(a) and (b).

WITNESS RESPONSIBLE: John J. Spanos


UNION LIGHT, HEAT AND POWER COMPANY
ACCOUNT 2741 RIGHTS OF WAY - GENERAL
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1967-2004 EXPERIENCE; 1910-1996 PLACEMENTS
IOWA 65-R4
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

UNION LIGHT, HEAT AND POWER COMPANY

ACCOUNT 2741 RIGHTS OF WAY - GENERAL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1910-1996 EXPERIENCE BAND 1967-2004

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	777,360		0.0000	1.0000	100.00
0.5	778,431		0.0000	1.0000	100.00
1.5	913,047	152	0.0002	0.9998	100.00
2.5	914,886		0.0000	1.0000	99.98
3.5	916,701		0.0000	1.0000	99.98
4.5	935,774		0.0000	1.0000	99.98
5.5	942,793		0.0000	1.0000	99.98
6.5	943,902		0.0000	1.0000	99.98
7.5	945,848		0.0000	1.0000	99.98
8.5	920,965		0.0000	1.0000	99.98
9.5	935,187		0.0000	1.0000	99.98
10.5	830,268		0.0000	1.0000	99.98
11.5	848,144		0.0000	1.0000	99.98
12.5	667,173		0.0000	1.0000	99.98
13.5	639,508		0.0000	1.0000	99.98
14.5	603,756		0.0000	1.0000	99.98
15.5	533,842		0.0000	1.0000	99.98
16.5	518,497		0.0000	1.0000	99.98
17.5	496,927		0.0000	1.0000	99.98
18.5	472,568		0.0000	1.0000	99.98
19.5	462,529		0.0000	1.0000	99.98
20.5	459,504		0.0000	1.0000	99.98
21.5	453,070		0.0000	1.0000	99.98
22.5	408,615		0.0000	1.0000	99.98
23.5	403,503		0.0000	1.0000	99.98
24.5	387,618		0.0000	1.0000	99.98
25.5	386,676		0.0000	1.0000	99.98
26.5	382,944		0.0000	1.0000	99.98
27.5	360,837		0.0000	1.0000	99.98
28.5	352,254		0.0000	1.0000	99.98
29.5	323,834		0.0000	1.0000	99.98
30.5	306,874		0.0000	1.0000	99.98
31.5	299,939		0.0000	1.0000	99.98
32.5	264,330		0.0000	1.0000	99.98
33.5	251,948		0.0000	1.0000	99.98
34.5	242,328		0.0000	1.0000	99.98
35.5	238,847		0.0000	1.0000	99.98
36.5	233,760		0.0000	1.0000	99.98
37.5	221,037		0.0000	1.0000	99.98
38.5	241,725		0.0000	1.0000	99.98

UNION LIGHT, HEAT AND POWER COMPANY

ACCOUNT 2741 RIGHTS OF WAY - GENERAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1910-1996 EXPERIENCE BAND 1967-2004

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	106,736		0.0000	1.0000	99.98
40.5	104,745		0.0000	1.0000	99.98
41.5	102,930		0.0000	1.0000	99.98
42.5	83,857		0.0000	1.0000	99.98
43.5	76,838		0.0000	1.0000	99.98
44.5	75,729		0.0000	1.0000	99.98
45.5	73,783		0.0000	1.0000	99.98
46.5	73,475		0.0000	1.0000	99.98
47.5	58,344		0.0000	1.0000	99.98
48.5	58,163				
49.5	30,522		0.0000	1.0000	99.98
50.5	30,497		0.0000	1.0000	99.98
51.5	28,670		0.0000	1.0000	99.98
52.5	27,328		0.0000	1.0000	99.98
53.5	27,328		0.0000	1.0000	99.98
54.5	27,328		0.0000	1.0000	99.98
55.5	27,328		0.0000	1.0000	99.98
56.5	27,328		0.0000	1.0000	99.98
57.5	27,328		0.0000	1.0000	99.98
58.5	27,328				
59.5	27,328		0.0000	1.0000	99.98
60.5	27,328		0.0000	1.0000	99.98
61.5	27,328		0.0000	1.0000	99.98
62.5	27,328		0.0000	1.0000	99.98
63.5	27,328		0.0000	1.0000	99.98
64.5	27,328		0.0000	1.0000	99.98
65.5	27,328		0.0000	1.0000	99.98
66.5	27,328		0.0000	1.0000	99.98
67.5	27,328		0.0000	1.0000	99.98
68.5	27,328				
69.5	27,328		0.0000	1.0000	99.98
70.5	5,569		0.0000	1.0000	99.98
71.5					99.98
72.5					
73.5	678		0.0000		
74.5	9,502		0.0000		
75.5	9,502		0.0000		
76.5	9,502		0.0000		
77.5	9,502		0.0000		
78.5	9,502		0.0000		

UNION LIGHT, HEAT AND POWER COMPANY

ACCOUNT 2741 RIGHTS OF WAY - GENERAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1910-1996 EXPERIENCE BAND 1967-2004

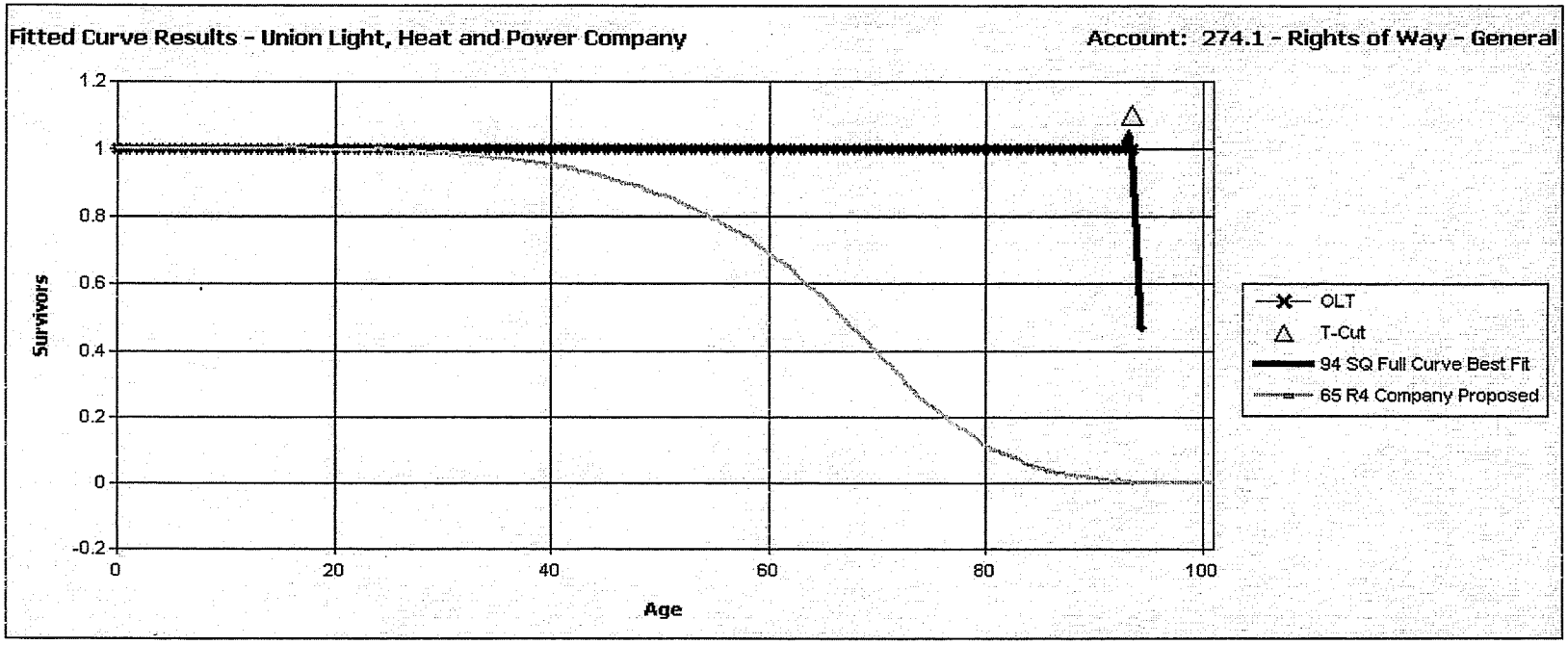
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	10,445		0.0000		
80.5	1,621		0.0000		
81.5	1,621		0.0000		
82.5	1,621		0.0000		
83.5	1,621		0.0000		
84.5	1,621		0.0000		
85.5					
86.5					
87.5					
88.5	10,635		0.0000		
89.5	10,635		0.0000		
90.5	10,635		0.0000		
91.5	10,635		0.0000		
92.5	10,635		0.0000		
93.5	10,635		0.0000		
94.5					

Best Fit Curve Results
Union Light, Heat and Power Company
Account: 274.1 - Rights of Way - General

Curve	Life	Sum of Squared Differences
BAND	**1967 - 2004**	
SQ	94.0	0.025
S6	100.0	1,090.113
S5	100.0	4,067.849
R5	100.0	4,995.612
L5	100.0	7,083.478
S4	100.0	9,334.196
R4	100.0	10,625.693
L4	100.0	14,329.604
S3	100.0	17,084.884
R3	100.0	17,524.052
R2.5	100.0	22,495.660
S2	100.0	25,300.542
R2	100.0	28,425.969
L3	100.0	28,933.318
S1.5	100.0	30,236.082
R1.5	100.0	35,522.261
S1	100.0	36,008.409
S0.5	100.0	42,138.189
R1	100.0	43,800.705
L2	100.0	44,107.015
L1.5	100.0	51,020.932
R0.5	100.0	55,597.678
S-0.5	100.0	58,383.888
L1	100.0	59,262.315
L0.5	100.0	67,830.858
O1	100.0	69,140.059
L0	100.0	77,595.776
O2	100.0	87,366.451
O3	100.0	143,278.488
O4	100.0	202,434.198
S0	1.0	949,694.436

Analytical Parameters

OLT Placement Band:	1910 - 1996
OLT Experience Band:	1967 - 2004
Minimum Life Parameter:	1
Maximum Life Parameter:	100
Life Increment Parameter:	1
Max Age (T-Cut):	93.5



Analytical Parameters

OLT Placement Band:	1910 - 1996
OLT Experience Band:	1967 - 2004
Minimum Life Parameter:	1
Maximum Life Parameter:	100
Life Increment Parameter:	1
Max Age (T-Cut):	93.5

Observed Life Table Results
Union Light, Heat and Power Company
Account: 274.1 - Rights of Way - General

Age	Exposures	Retiremen	Retirement Ratio (%)	Survivor Ratio (%)	Cumulative Survivors
BAND		1910 - 1996			
0	1,019,783	0	0.0000	100.0000	1.0000
0.5	1,019,783	0	0.0000	100.0000	1.0000
1.5	1,019,783	152	0.0149	99.9851	1.0000
2.5	1,019,631	0	0.0000	100.0000	0.9999
3.5	1,019,631	0	0.0000	100.0000	0.9999
4.5	1,019,631	0	0.0000	100.0000	0.9999
5.5	1,019,631	0	0.0000	100.0000	0.9999
6.5	1,019,631	0	0.0000	100.0000	0.9999
7.5	1,019,631	0	0.0000	100.0000	0.9999
8.5	994,440	0	0.0000	100.0000	0.9999
9.5	993,530	0	0.0000	100.0000	0.9999
10.5	888,432	0	0.0000	100.0000	0.9999
11.5	878,667	0	0.0000	100.0000	0.9999
12.5	697,669	0	0.0000	100.0000	0.9999
13.5	668,178	0	0.0000	100.0000	0.9999
14.5	631,084	0	0.0000	100.0000	0.9999
15.5	561,170	0	0.0000	100.0000	0.9999
16.5	545,825	0	0.0000	100.0000	0.9999
17.5	524,255	0	0.0000	100.0000	0.9999
18.5	499,896	0	0.0000	100.0000	0.9999
19.5	489,857	0	0.0000	100.0000	0.9999
20.5	486,832	0	0.0000	100.0000	0.9999
21.5	480,397	0	0.0000	100.0000	0.9999
22.5	435,943	0	0.0000	100.0000	0.9999
23.5	430,830	0	0.0000	100.0000	0.9999
24.5	414,945	0	0.0000	100.0000	0.9999
25.5	414,003	0	0.0000	100.0000	0.9999
26.5	410,272	0	0.0000	100.0000	0.9999
27.5	388,164	0	0.0000	100.0000	0.9999
28.5	379,582	0	0.0000	100.0000	0.9999
29.5	351,162	0	0.0000	100.0000	0.9999
30.5	334,201	0	0.0000	100.0000	0.9999
31.5	327,267	0	0.0000	100.0000	0.9999
32.5	291,658	0	0.0000	100.0000	0.9999
33.5	273,707	0	0.0000	100.0000	0.9999
34.5	264,087	0	0.0000	100.0000	0.9999
35.5	260,606	0	0.0000	100.0000	0.9999
36.5	255,519	0	0.0000	100.0000	0.9999
37.5	242,796	0	0.0000	100.0000	0.9999
38.5	241,725	0	0.0000	100.0000	0.9999
39.5	106,736	0	0.0000	100.0000	0.9999
40.5	104,745	0	0.0000	100.0000	0.9999
41.5	102,930	0	0.0000	100.0000	0.9999
42.5	83,857	0	0.0000	100.0000	0.9999
43.5	76,838	0	0.0000	100.0000	0.9999

Observed Life Table Results
Union Light, Heat and Power Company
Account: 274.1 - Rights of Way - General

Age	Exposures	Retiremen	Retirement Ratio (%)	Survivor Ratio (%)	Cumulative Survivors
44.5	75,729	0	0.0000	100.0000	0.9999
45.5	73,783	0	0.0000	100.0000	0.9999
46.5	73,475	0	0.0000	100.0000	0.9999
47.5	58,344	0	0.0000	100.0000	0.9999
48.5	58,163	0	0.0000	100.0000	0.9999
49.5	30,522	0	0.0000	100.0000	0.9999
50.5	30,497	0	0.0000	100.0000	0.9999
51.5	28,670	0	0.0000	100.0000	0.9999
52.5	27,328	0	0.0000	100.0000	0.9999
53.5	27,328	0	0.0000	100.0000	0.9999
54.5	27,328	0	0.0000	100.0000	0.9999
55.5	27,328	0	0.0000	100.0000	0.9999
56.5	27,328	0	0.0000	100.0000	0.9999
57.5	27,328	0	0.0000	100.0000	0.9999
58.5	27,328	0	0.0000	100.0000	0.9999
59.5	27,328	0	0.0000	100.0000	0.9999
60.5	27,328	0	0.0000	100.0000	0.9999
61.5	27,328	0	0.0000	100.0000	0.9999
62.5	27,328	0	0.0000	100.0000	0.9999
63.5	27,328	0	0.0000	100.0000	0.9999
64.5	27,328	0	0.0000	100.0000	0.9999
65.5	27,328	0	0.0000	100.0000	0.9999
66.5	27,328	0	0.0000	100.0000	0.9999
67.5	27,328	0	0.0000	100.0000	0.9999
68.5	27,328	0	0.0000	100.0000	0.9999
69.5	27,328	0	0.0000	100.0000	0.9999
70.5	5,569	0	0.0000	100.0000	0.9999
71.5	0	0	0.0000	100.0000	0.9999
72.5	0	0	0.0000	100.0000	0.9999
73.5	678	0	0.0000	100.0000	0.9999
74.5	9,502	0	0.0000	100.0000	0.9999
75.5	9,502	0	0.0000	100.0000	0.9999
76.5	9,502	0	0.0000	100.0000	0.9999
77.5	9,502	0	0.0000	100.0000	0.9999
78.5	9,502	0	0.0000	100.0000	0.9999
79.5	10,445	0	0.0000	100.0000	0.9999
80.5	1,621	0	0.0000	100.0000	0.9999
81.5	1,621	0	0.0000	100.0000	0.9999
82.5	1,621	0	0.0000	100.0000	0.9999
83.5	1,621	0	0.0000	100.0000	0.9999
84.5	1,621	0	0.0000	100.0000	0.9999
85.5	0	0	0.0000	100.0000	0.9999
86.5	0	0	0.0000	100.0000	0.9999
87.5	0	0	0.0000	100.0000	0.9999
88.5	10,635	0	0.0000	100.0000	0.9999
89.5	10,635	0	0.0000	100.0000	0.9999

Observed Life Table Results
Union Light, Heat and Power Company
Account: 274.1 - Rights of Way - General

Age	Exposures	Retiremen	Retirement Ratio (%)	Survivor Ratio (%)	Cumulative Survivors
90.5	10,635	0	0.0000	100.0000	0.9999
91.5	10,635	0	0.0000	100.0000	0.9999
92.5	10,635	0	0.0000	100.0000	0.9999
93.5	10,635	0	0.0000	100.0000	0.9999

Observed Life Table Results
Union Light, Heat and Power Company
Account: 274.1 - Rights of Way - General

Age	Exposures	Retiremen	Retirement Ratio (%)	Survivor Ratio (%)	Cumulative Survivors
BAND		1967 - 1996			
0	777,360	0	0.0000	100.0000	1.0000
0.5	778,431	0	0.0000	100.0000	1.0000
1.5	913,047	152	0.0166	99.9834	1.0000
2.5	914,886	0	0.0000	100.0000	0.9998
3.5	916,701	0	0.0000	100.0000	0.9998
4.5	935,774	0	0.0000	100.0000	0.9998
5.5	942,793	0	0.0000	100.0000	0.9998
6.5	943,902	0	0.0000	100.0000	0.9998
7.5	945,848	0	0.0000	100.0000	0.9998
8.5	920,965	0	0.0000	100.0000	0.9998
9.5	935,187	0	0.0000	100.0000	0.9998
10.5	830,268	0	0.0000	100.0000	0.9998
11.5	848,144	0	0.0000	100.0000	0.9998
12.5	667,173	0	0.0000	100.0000	0.9998
13.5	639,508	0	0.0000	100.0000	0.9998
14.5	603,756	0	0.0000	100.0000	0.9998
15.5	533,842	0	0.0000	100.0000	0.9998
16.5	518,497	0	0.0000	100.0000	0.9998
17.5	496,927	0	0.0000	100.0000	0.9998
18.5	472,568	0	0.0000	100.0000	0.9998
19.5	462,529	0	0.0000	100.0000	0.9998
20.5	459,504	0	0.0000	100.0000	0.9998
21.5	453,070	0	0.0000	100.0000	0.9998
22.5	408,615	0	0.0000	100.0000	0.9998
23.5	403,503	0	0.0000	100.0000	0.9998
24.5	387,618	0	0.0000	100.0000	0.9998
25.5	386,676	0	0.0000	100.0000	0.9998
26.5	382,944	0	0.0000	100.0000	0.9998
27.5	360,837	0	0.0000	100.0000	0.9998
28.5	352,254	0	0.0000	100.0000	0.9998
29.5	323,834	0	0.0000	100.0000	0.9998
30.5	306,874	0	0.0000	100.0000	0.9998
31.5	299,939	0	0.0000	100.0000	0.9998
32.5	264,330	0	0.0000	100.0000	0.9998
33.5	251,948	0	0.0000	100.0000	0.9998
34.5	242,328	0	0.0000	100.0000	0.9998
35.5	238,847	0	0.0000	100.0000	0.9998
36.5	233,760	0	0.0000	100.0000	0.9998
37.5	221,037	0	0.0000	100.0000	0.9998
38.5	241,725	0	0.0000	100.0000	0.9998
39.5	106,736	0	0.0000	100.0000	0.9998
40.5	104,745	0	0.0000	100.0000	0.9998
41.5	102,930	0	0.0000	100.0000	0.9998
42.5	83,857	0	0.0000	100.0000	0.9998
43.5	76,838	0	0.0000	100.0000	0.9998

Observed Life Table Results
Union Light, Heat and Power Company
Account: 274.1 - Rights of Way - General

Age	Exposures	Retiremen	Retirement Ratio (%)	Survivor Ratio (%)	Cumulative Survivors
44.5	75,729	0	0.0000	100.0000	0.9998
45.5	73,783	0	0.0000	100.0000	0.9998
46.5	73,475	0	0.0000	100.0000	0.9998
47.5	58,344	0	0.0000	100.0000	0.9998
48.5	58,163	0	0.0000	100.0000	0.9998
49.5	30,522	0	0.0000	100.0000	0.9998
50.5	30,497	0	0.0000	100.0000	0.9998
51.5	28,670	0	0.0000	100.0000	0.9998
52.5	27,328	0	0.0000	100.0000	0.9998
53.5	27,328	0	0.0000	100.0000	0.9998
54.5	27,328	0	0.0000	100.0000	0.9998
55.5	27,328	0	0.0000	100.0000	0.9998
56.5	27,328	0	0.0000	100.0000	0.9998
57.5	27,328	0	0.0000	100.0000	0.9998
58.5	27,328	0	0.0000	100.0000	0.9998
59.5	27,328	0	0.0000	100.0000	0.9998
60.5	27,328	0	0.0000	100.0000	0.9998
61.5	27,328	0	0.0000	100.0000	0.9998
62.5	27,328	0	0.0000	100.0000	0.9998
63.5	27,328	0	0.0000	100.0000	0.9998
64.5	27,328	0	0.0000	100.0000	0.9998
65.5	27,328	0	0.0000	100.0000	0.9998
66.5	27,328	0	0.0000	100.0000	0.9998
67.5	27,328	0	0.0000	100.0000	0.9998
68.5	27,328	0	0.0000	100.0000	0.9998
69.5	27,328	0	0.0000	100.0000	0.9998
70.5	5,569	0	0.0000	100.0000	0.9998
71.5	0	0	0.0000	100.0000	0.9998
72.5	0	0	0.0000	100.0000	0.9998
73.5	678	0	0.0000	100.0000	0.9998
74.5	9,502	0	0.0000	100.0000	0.9998
75.5	9,502	0	0.0000	100.0000	0.9998
76.5	9,502	0	0.0000	100.0000	0.9998
77.5	9,502	0	0.0000	100.0000	0.9998
78.5	9,502	0	0.0000	100.0000	0.9998
79.5	10,445	0	0.0000	100.0000	0.9998
80.5	1,621	0	0.0000	100.0000	0.9998
81.5	1,621	0	0.0000	100.0000	0.9998
82.5	1,621	0	0.0000	100.0000	0.9998
83.5	1,621	0	0.0000	100.0000	0.9998
84.5	1,621	0	0.0000	100.0000	0.9998
85.5	0	0	0.0000	100.0000	0.9998
86.5	0	0	0.0000	100.0000	0.9998
87.5	0	0	0.0000	100.0000	0.9998
88.5	10,635	0	0.0000	100.0000	0.9998
89.5	10,635	0	0.0000	100.0000	0.9998

Observed Life Table Results
Union Light, Heat and Power Company
Account: 274.1 - Rights of Way - General

Age	Exposures	Retiremen	Retirement Ratio (%)	Survivor Ratio (%)	Cumulative Survivors
90.5	10,635	0	0.0000	100.0000	0.9998
91.5	10,635	0	0.0000	100.0000	0.9998
92.5	10,635	0	0.0000	100.0000	0.9998
93.5	10,635	0	0.0000	100.0000	0.9998

Union Light, Heat and Power Co.

274.1 - Rights of Way - General

Calculation of Remaining Life
Based Upon Equal Life Group Procedures
Related to Original Cost as of December 31, 2004

Survivor Curve .. IOWA: 100 R4

Year (1)	Age (2)	Surviving Investment (3)	ELG Average Service Life (4)	ELG Average Remaining Life (5)	ASL Weights (6)=(3)/(4)	RL Weights (7)=(6)*(5)
2004	0.5	0	93.89	93.39	0	0
2003	1.5	0	93.97	92.47	0	0
2002	2.5	0	94.02	91.52	0	0
2001	3.5	0	94.05	90.55	0	0
2000	4.5	0	94.08	89.58	0	0
1999	5.5	0	94.11	88.61	0	0
1998	6.5	0	94.13	87.63	0	0
1997	7.5	0	94.16	86.66	0	0
1996	8.5	25,191	94.18	85.68	267	22,918
1995	9.5	910	94.21	84.71	10	818
1994	10.5	105,099	94.23	83.73	1,115	93,388
1993	11.5	9,765	94.26	82.76	104	8,574
1992	12.5	180,997	94.28	81.78	1,920	157,001
1991	13.5	29,491	94.31	80.81	313	25,269
1990	14.5	37,094	94.34	79.84	393	31,393
1989	15.5	69,914	94.37	78.87	741	58,431
1988	16.5	15,345	94.40	77.90	163	12,663
1987	17.5	21,570	94.43	76.93	228	17,573
1986	18.5	24,359	94.47	75.97	258	19,589
1985	19.5	10,039	94.50	75.00	106	7,968
1984	20.5	3,025	94.54	74.04	32	2,369
1983	21.5	6,960	94.58	73.08	74	5,378
1982	22.5	44,455	94.62	72.12	470	33,883
1981	23.5	5,112	94.66	71.16	54	3,843
1980	24.5	15,885	94.71	70.21	168	11,776
1979	25.5	942	94.76	69.26	10	688
1978	26.5	3,731	94.81	68.31	39	2,688
1977	27.5	22,108	94.86	67.36	233	15,699
1976	28.5	8,582	94.92	66.42	90	6,006
1975	29.5	28,420	94.98	65.48	299	19,593
1974	30.5	16,961	95.04	64.54	178	11,518
1973	31.5	6,935	95.11	63.61	73	4,638
1972	32.5	35,609	95.18	62.68	374	23,450
1971	33.5	17,951	95.25	61.75	188	11,638

Union Light, Heat and Power Co.

274.1 - Rights of Way - General

Calculation of Remaining Life
Based Upon Equal Life Group Procedures
Related to Original Cost as of December 31, 2004

Survivor Curve .. IOWA: 100 R4

Year	Age	Surviving Investment	ELG Average Service Life	ELG Average Remaining Life	ASL Weights	RL Weights
(1)	(2)	(3)	(4)	(5)	(6)=(3)/(4)	(7)=(6)*(5)
1970	34.5	9,619	95.33	60.83	101	6,138
1969	35.5	3,481	95.41	59.91	36	2,186
1968	36.5	5,088	95.50	59.00	53	3,143
1967	37.5	12,723	95.59	58.09	133	7,732
1966	38.5	1,070	95.68	57.18	11	640
1965	39.5	134,989	95.78	56.28	1,409	79,321
1964	40.5	1,991	95.89	55.39	21	1,150
1963	41.5	1,815	95.99	54.49	19	1,030
1962	42.5	19,073	96.11	53.61	198	10,639
1961	43.5	7,019	96.23	52.73	73	3,846
1960	44.5	1,109	96.35	51.85	12	597
1959	45.5	1,946	96.48	50.98	20	1,028
1958	46.5	308	96.61	50.11	3	160
1957	47.5	15,131	96.75	49.25	156	7,703
1956	48.5	180	96.90	48.40	2	90
1955	49.5	27,641	97.05	47.55	285	13,543
1954	50.5	26	97.21	46.71	0	12
1953	51.5	1,827	97.38	45.88	19	861
1952	52.5	1,342	97.55	45.05	14	620
1951	53.5	0	97.72	44.22	0	0
1950	54.5	0	97.91	43.41	0	0
1949	55.5	0	98.10	42.60	0	0
1948	56.5	0	98.30	41.80	0	0
1947	57.5	0	98.50	41.00	0	0
1946	58.5	0	98.71	40.21	0	0
1945	59.5	0	98.93	39.43	0	0
1944	60.5	0	99.15	38.65	0	0
1943	61.5	0	99.39	37.89	0	0
1942	62.5	0	99.62	37.12	0	0
1941	63.5	0	99.87	36.37	0	0
1940	64.5	0	100.12	35.62	0	0
1939	65.5	0	100.38	34.88	0	0
1938	66.5	0	100.65	34.15	0	0
1937	67.5	0	100.93	33.43	0	0

Union Light, Heat and Power Co.

274.1 - Rights of Way - General

Calculation of Remaining Life
Based Upon Equal Life Group Procedures
Related to Original Cost as of December 31, 2004

Survivor Curve .. IOWA: 100 R4

Year	Age	Surviving Investment	ELG Average Service Life	ELG Average Remaining Life	ASL Weights	RL Weights
(1)	(2)	(3)	(4)	(5)	(6)=(3)/(4)	(7)=(6)*(5)
1936	68.5	0	101.21	32.71	0	0
1935	69.5	0	101.50	32.00	0	0
1934	70.5	0	101.79	31.29	0	0
1933	71.5	5,569	102.09	30.59	55	1,669
1932	72.5	0	102.40	29.90	0	0
1931	73.5	0	102.72	29.22	0	0
1930	74.5	0	103.04	28.54	0	0
1929	75.5	0	103.37	27.87	0	0
1928	76.5	0	103.71	27.21	0	0
1927	77.5	0	104.05	26.55	0	0
1926	78.5	0	104.40	25.90	0	0
1925	79.5	678	104.75	25.25	6	164
1924	80.5	8,824	105.11	24.61	84	2,066
1923	81.5	0	105.48	23.98	0	0
1922	82.5	0	105.85	23.35	0	0
1921	83.5	0	106.22	22.72	0	0
1920	84.5	0	106.60	22.10	0	0
1919	85.5	1,621	106.99	21.49	15	326
1918	86.5	0	107.38	20.88	0	0
1917	87.5	0	107.78	20.28	0	0
1916	88.5	0	108.19	19.69	0	0
1915	89.5	0	108.61	19.11	0	0
1914	90.5	0	109.04	18.54	0	0
1913	91.5	0	109.48	17.98	0	0
1912	92.5	0	109.93	17.43	0	0
1911	93.5	0	110.40	16.90	0	0
1910	94.5	10,635	110.88	16.38	96	1,571
		1,020,156			10,723	754,983

AVERAGE SERVICE LIFE 95.1
AVERAGE REMAINING LIFE 70.4

Union Light, Heat & Power Co

276.3 - Mains - Plastic

KyPSC Staff Second Set Data Requests
ULH&P Case No. 2005-00042
Date Received: April 5, 2005
Response Due Date: April 19, 2005

KyPSC-DR-02-015

REQUEST:

15. Refer to the Application, Tab 34, page III-37. Concerning Account 2763, Mains – Plastic, the proposed remaining life of 36.3 years appears to be conservative and the resulting depreciation rate of 2.97 percent appears to be high.

    a. Does ULH&P consider Iowa curve 50-R2 to be the best match for this account? Explain the response.
    b. Would ULH&P agree that the estimated service life for this account is relatively short? Explain the response.
    c. Indicate whether an Iowa curve that provides a better match for this account exists and provide a copy of that curve.

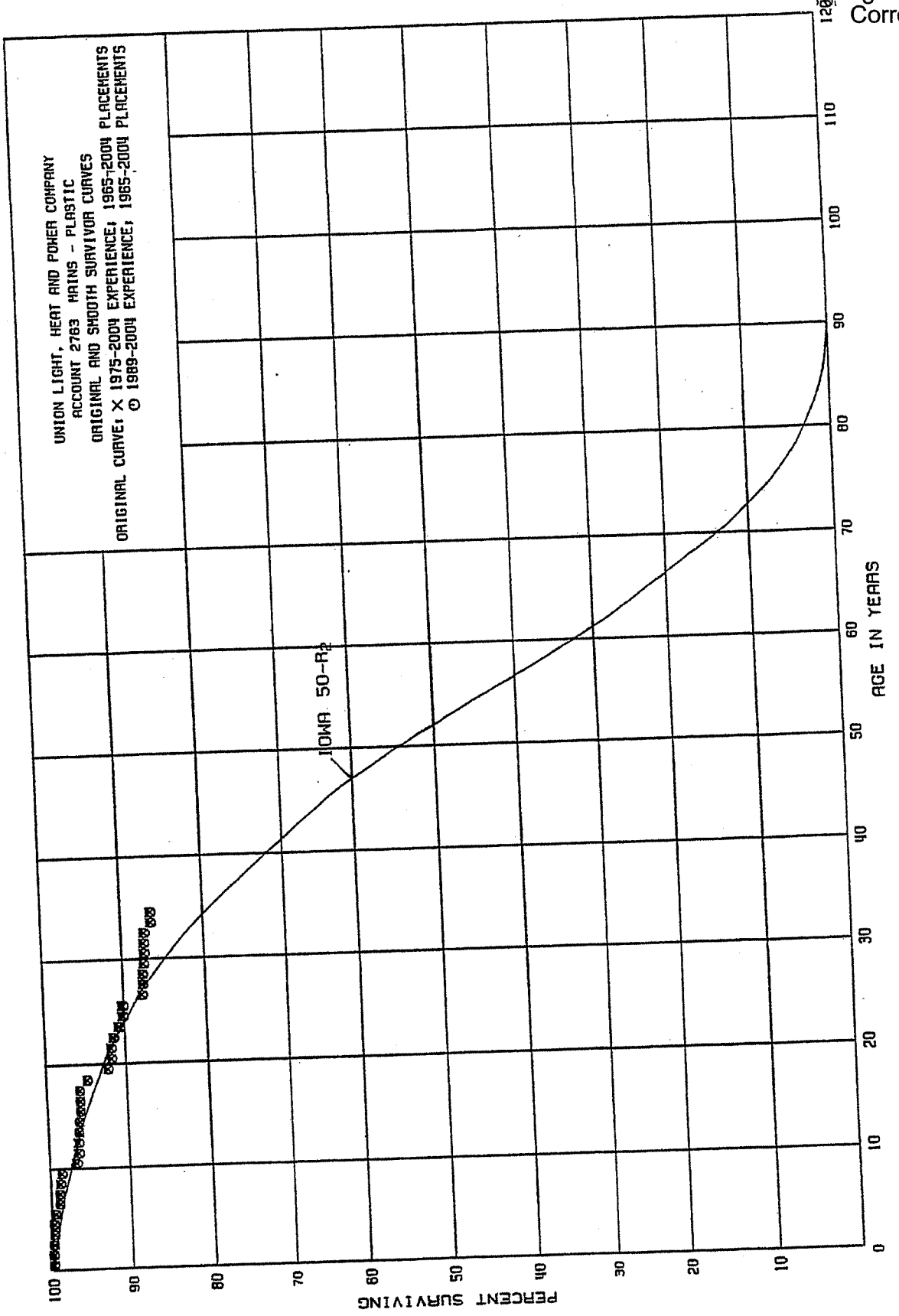
RESPONSE:

a. Based on all the factors considered in determining an Iowa curve for this account, it is my judgment that the 50-R2 best represents the life characteristics for Account 2763. The estimate for this account was determined on many factors beyond just statistics.

b. No, I would not agree that the estimated service life for this account is relatively short. As shown by the life table, plastic mains have only been in existence for 39 years; therefore, estimating a 50-year average of assets that have only 39 years of existence requires judgment. Given the available historical analysis and expectations of service life for plastic main, the 50-R2 is a reasonable estimate.

c. It is possible to fit other curves to the statistical data through 2004; however, I feel the 50-R2 is the best estimate considering all factors relating to retirement.

WITNESS RESPONSIBLE: John J. Spanos

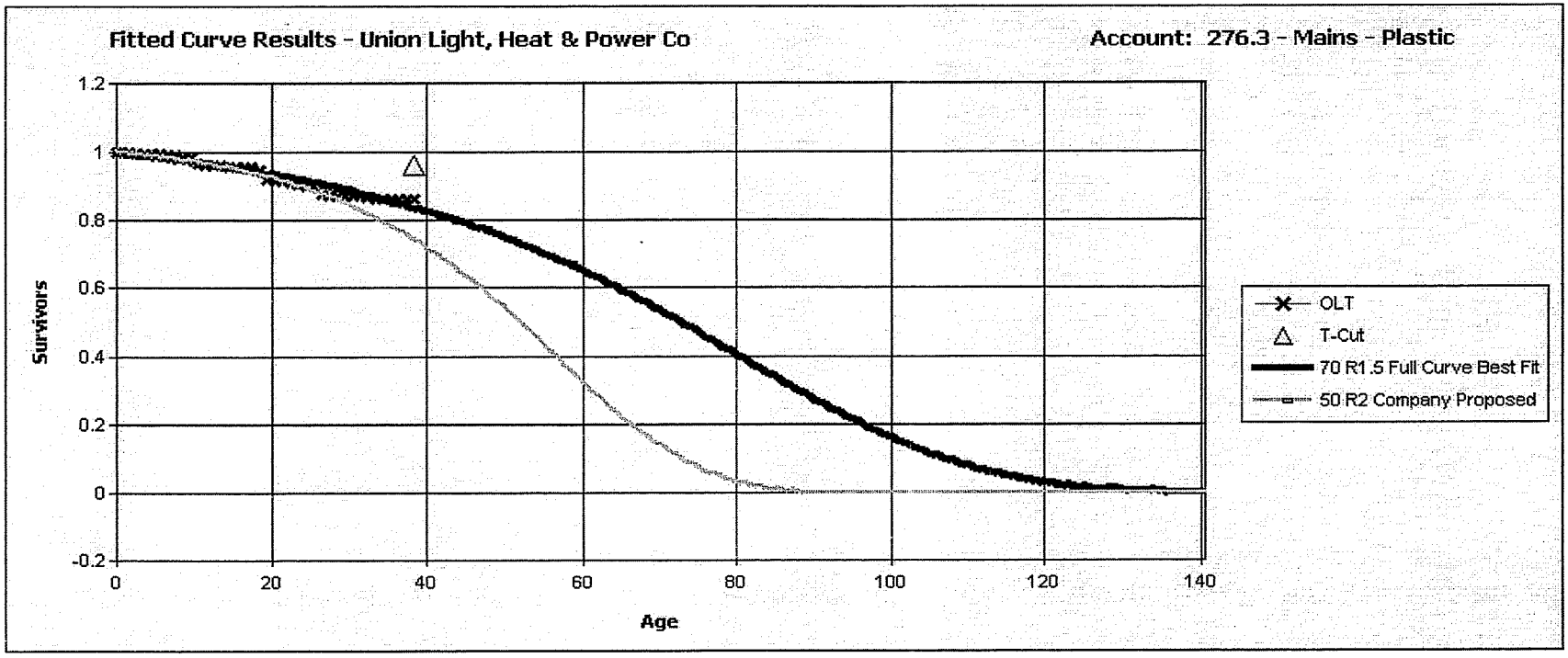

UNION LIGHT, HEAT AND POWER COMPANY
ACCOUNT 2763 MAINS - PLASTIC
ORIGINAL AND SMOOTH SURVIVOR CURVES
ORIGINAL CURVE: X 1975-2004 EXPERIENCE; 1965-2004 PLACEMENTS
© 1989-2004 EXPERIENCE; 1965-2004 PLACEMENTS
IOWA 50-R2
PERCENT SURVIVING
AGE IN YEARS
100
90
80
70
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
100
110
120

Best Fit Curve Results
Union Light, Heat & Power Co
Account: 276.3 - Mains - Plastic

Curve	Life	Sum of Squared Differences
BAND	**1975 - 2004**	
R1.5	70.0	10,054.021
R1	80.0	10,074.858
R2	60.0	10,081.991
S0.5	68.0	10,097.746
L1	77.0	10,108.706
R2.5	54.0	10,149.164
L1.5	68.0	10,163.982
L0.5	80.0	10,195.203
S1	61.0	10,203.686
S1.5	56.0	10,299.183
R3	50.0	10,308.363
S-0.5	80.0	10,319.987
L2	61.0	10,328.915
R0.5	80.0	10,464.643
S2	52.0	10,490.942
L3	52.0	10,638.181
R4	45.0	10,718.321
L0	80.0	10,825.806
S3	48.0	10,856.897
L4	46.0	10,950.538
O1	80.0	11,348.391
S4	44.0	11,363.853
R5	42.0	11,427.809
L5	43.0	11,465.330
S5	42.0	11,814.614
S6	41.0	12,170.360
O2	80.0	12,243.983
SQ	39.0	12,810.032
O3	80.0	17,674.494
O4	80.0	27,130.943
S0	10.0	340,178.032

Analytical Parameters

OLT Placement Band:	1965 - 2004
OLT Experience Band:	1975 - 2004
Minimum Life Parameter:	10
Maximum Life Parameter:	80
Life Increment Parameter:	1
Max Age (T-Cut):	38.5



Analytical Parameters

OLT Placement Band:	1965 - 2004
OLT Experience Band:	1975 - 2004
Minimum Life Parameter:	10
Maximum Life Parameter:	80
Life Increment Parameter:	1
Max Age (T-Cut):	38.5

Observed Life Table Results
Union Light, Heat & Power Co
Account: 276.3 - Mains - Plastic

Age	Exposures	Retirement	Retirement Ratio (%)	Survivor Ratio (%)	Cumulative Survivors
BAND		1975 - 2004			
0	42,510,750	0	0.0000	100.0000	1.0000
0.5	38,150,879	13,350	0.0003	99.9997	1.0000
1.5	23,151,920	74,630	0.0032	99.9968	0.9997
2.5	33,527,696	17,523	0.0005	99.9995	0.9976
3.5	29,784,505	9,214	0.0003	99.9997	0.9971
4.5	26,778,717	45,447	0.0017	99.9983	0.9968
5.5	24,189,044	144,784	0.0060	99.9940	0.9957
6.5	20,546,527	3,439	0.0002	99.9998	0.9891
7.5	16,209,971	23,334	0.0014	99.9986	0.9889
8.5	12,602,889	24,190	0.0019	99.9981	0.9875
9.5	9,482,049	180,549	0.0190	99.9810	0.9856
10.5	5,440,238	19,019	0.0035	99.9965	0.9669
11.5	3,003,597	35	0.0000	100.0000	0.9635
12.5	1,742,578	5,024	0.0029	99.9971	0.9635
13.5	1,565,168	864	0.0006	99.9994	0.9607
14.5	1,505,014	1,342	0.0009	99.9991	0.9601
15.5	1,417,938	388	0.0003	99.9997	0.9592
16.5	1,405,436	377	0.0003	99.9997	0.9589
17.5	1,345,718	13,025	0.0097	99.9903	0.9586
18.5	1,304,784	38,883	0.0298	99.9702	0.9493
19.5	1,265,902	7,265	0.0057	99.9943	0.9210
20.5	1,218,069	0	0.0000	100.0000	0.9158
21.5	1,208,412	3,983	0.0033	99.9967	0.9158
22.5	1,204,429	9,049	0.0075	99.9925	0.9128
23.5	1,159,302	6,280	0.0054	99.9946	0.9060
24.5	984,401	68	0.0001	99.9999	0.9011
25.5	883,408	25,474	0.0288	99.9712	0.9010
26.5	797,581	952	0.0012	99.9988	0.8751
27.5	787,300	234	0.0003	99.9997	0.8740
28.5	758,018	1,411	0.0019	99.9981	0.8737
29.5	688,967	875	0.0013	99.9987	0.8720
30.5	598,116	0	0.0000	100.0000	0.8709
31.5	478,590	430	0.0009	99.9991	0.8709
32.5	296,262	2,797	0.0094	99.9906	0.8701
33.5	113,283	0	0.0000	100.0000	0.8619
34.5	7,912	0	0.0000	100.0000	0.8619
35.5	7,912	0	0.0000	100.0000	0.8619
36.5	1,139	0	0.0000	100.0000	0.8619
37.5	1,139	0	0.0000	100.0000	0.8619
38.5	1,139	135	0.1184	99.8816	0.8619

1/ Company Provided Exposures and Retirements

Union Light, Heat and Power Co.

276.3 - Mains - Plastic

Calculation of Remaining Life
Based Upon Equal Life Group Procedures
Related to Original Cost as of December 31, 2004

Survivor Curve .. IOWA: 70 R1.5

			ELG Average			
Year	Age	Surviving Investment	Service Life	Remaining Life	ASL Weights	RL Weights
(1)	(2)	(3)	(4)	(5)	(6)=(3)/(4)	(7)=(6)*(5)
2004	0.5	4,473,857	39.55	39.05	113,130	4,417,292
2003	1.5	3,106,096	43.90	42.40	70,747	2,999,975
2002	2.5	1,739,768	46.49	43.99	37,420	1,646,218
2001	3.5	3,963,310	48.41	44.91	81,868	3,676,773
2000	4.5	3,432,645	49.98	45.48	68,683	3,123,570
1999	5.5	2,214,225	51.32	45.82	43,148	1,976,912
1998	6.5	3,505,324	52.50	46.00	66,763	3,071,365
1997	7.5	4,333,118	53.58	46.08	80,877	3,726,543
1996	8.5	3,583,748	54.56	46.06	65,682	3,025,453
1995	9.5	3,098,607	55.48	45.98	55,851	2,568,024
1994	10.5	3,861,262	56.34	45.84	68,535	3,141,644
1993	11.5	2,417,622	57.16	45.66	42,298	1,931,191
1992	12.5	1,260,984	57.93	45.43	21,767	988,902
1991	13.5	172,386	58.68	45.18	2,938	132,724
1990	14.5	59,290	59.39	44.89	998	44,815
1989	15.5	85,734	60.08	44.58	1,427	63,616
1988	16.5	12,114	60.75	44.25	199	8,824
1987	17.5	59,341	61.40	43.90	967	42,427
1986	18.5	27,909	62.03	43.53	450	19,585
1985	19.5	0	62.65	43.15	0	0
1984	20.5	40,568	63.25	42.75	641	27,419
1983	21.5	9,657	63.84	42.34	151	6,404
1982	22.5	0	64.42	41.92	0	0
1981	23.5	36,079	64.99	41.49	555	23,033
1980	24.5	168,621	65.55	41.05	2,572	105,598
1979	25.5	100,924	66.11	40.61	1,527	61,993
1978	26.5	60,353	66.65	40.15	905	36,357
1977	27.5	9,330	67.19	39.69	139	5,511
1976	28.5	29,048	67.73	39.23	429	16,824
1975	29.5	67,640	68.26	38.76	991	38,407
1974	30.5	89,975	68.78	38.28	1,308	50,079
1973	31.5	119,527	69.31	37.81	1,725	65,202
1972	32.5	181,897	69.83	37.33	2,605	97,237
1971	33.5	180,182	70.34	36.84	2,561	94,375

Union Light, Heat and Power Co.

276.3 - Mains - Plastic

Calculation of Remaining Life
Based Upon Equal Life Group Procedures
Related to Original Cost as of December 31, 2004

Survivor Curve .. IOWA: 70 R1.5

Year	Age	Surviving Investment	ELG Average Service Life	ELG Average Remaining Life	ASL Weights	RL Weights
(1)	(2)	(3)	(4)	(5)	(6)=(3)/(4)	(7)=(6)*(5)
1970	34.5	105,371	70.86	36.36	1,487	54,069
1969	35.5	0	71.37	35.87	0	0
1968	36.5	6,773	71.89	35.39	94	3,334
1967	37.5	0	72.40	34.90	0	0
1966	38.5	0	72.91	34.41	0	0
1965	39.5	1,139	73.42	33.92	16	526
		42,614,425			841,453	37,292,223

AVERAGE SERVICE LIFE 50.6
AVERAGE REMAINING LIFE 44.3

Response of the Attorney General to
Initial Data Request of Commission Staff to the Attorney General
Union Light Heat & Power Company
Case No. 2005-00042

Witness Responding: Michael J. Majoros, Jr.

12. Refer to the Majoros Direct Testimony, page 7 of 40. Beginning at line 12 is the statement, "ELG, is very sensitive to the Iowa Curve shape and results in a shorter remaining life calculation, ergo a higher depreciation rate than other alternative procedures which are typically used in Kentucky." Describe these "other alternative procedures" and identify the utilities that have used these procedures for the development of depreciation rates.

Response:

The alternative is the average service life ("ASL") procedure. This is the procedure that was used in almost all of the Kentucky depreciation cases in which Mr. Majoros has been involved. The only Kentucky case in which Mr. Majoros was involved where ELG was an issue was a Columbia Gas of Kentucky case, Case No. 2002-00145. In that case, Mr. Spanos proposed ELG both retroactively and on a going-forward basis. Mr. Majoros' testimony discussed the pros and cons of ELG, but recommended if it were to be adopted, it should only be on a going-forward basis (not retroactively). Ultimately that case was settled, and the ASL procedure continued to be used instead of Mr. Spanos' ELG proposal.

Response of the Attorney General to
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Case No. 2005-00042

Witness Responding: Michael J. Majoros, Jr.

13. Refer to the Majoros Direct Testimony, pages 8 and 9 of 40. Since Mr. Majoros is accepting 23 of the 32 depreciation rates proposed by ULH&P, isn't he in effect accepting the equal life group procedure in this case? Explain the response.

Response:

You are correct. In effect, Mr. Majoros has accepted it because it was accepted by the KPSC in ULH&P's last study. Mr. Majoros requests that if this data response is to be used, please in fairness also refer to his response to Question No. 12, which immediately precedes this response.

Response of the Attorney General to
Initial Data Request of Commission Staff to the Attorney General
Union Light Heat & Power Company
Case No. 2005-00042

Witness Responding: Michael J. Majoros, Jr.

14. Refer to the Majoros Direct Testimony, pages 8 through 10 of 40 and Exhibit MJM-5.
    a. In pages 8 through 10 of 40, Mr. Majoros makes four references to Exhibit MJM-5. Provide the specific pages in Exhibit MJM-5 referenced in pages 8 through 10 of 40.
    b. On page 10 of 40, Mr. Majoros states that his analysis indicates that the service life for this account is 83 years. However, on Exhibit MJM-5, page 9 of 9, the average service life is shown as 80.4 years. Explain the conclusion that the service life should be 83 years.

Response:

a. Page 8, line 13 reference – please see Exhibit___(MJM-5), page 3 of 9.
Page 9, lines 7-8 reference – please see Exhibit___(MJM-5), page 2 of 9.
Page 10, line 6 reference – please see Exhibit___(MJM-5), page 4 of 9.
Page 10, line 8 reference – please see Exhibit___(MJM-5), page 5 of 9.

b. The average service life of 80.4 shown on Exhibit___(MJM-5) for account 205 – Structures and Improvements is the weighted average service life resulting from the use of an 83-R4 curve and the ELG procedure. In other words, as Mr. Majoros explained on page 7 of 40 of his testimony, the ELG procedure is very sensitive to the Iowa curve shape. In the case of account 205, ELG reduced the life from 83 to 80.4, ergo a higher depreciation rate.

Response of the Attorney General to
Initial Data Request of Commission Staff to the Attorney General
Union Light Heat & Power Company
Case No. 2005-00042

Witness Responding: Michael J. Majoros, Jr.

15. Refer to the Majoros Direct Testimony, pages 10 through 12 of 40 and Exhibit MJM-6.
    a. In pages 10 through 12 of 40, Mr. Majoros makes four references to Exhibit MJM-6. Provide the specific pages in Exhibit MJM-6 referenced in pages 10 through 12 of 40.
    b. On page 11 of 40, Mr. Majoros states that the "best fit" Iowa Curve for this account is 100 R0.5, but that the "best fit life" indication for the S1.5 curve is 59 years. Explain the difference between these results and why it is more reasonable to use the 59 years.

Response:

a. Page 10, line 19 reference – please see Exhibit___(MJM-6), page 3 of 9.
Page 11, line 7 reference – please see Exhibit___(MJM-6), page 2 of 9.
Page 11, line 25 reference – please see Exhibit___(MJM-6), page 5 of 9.
Page 11, line 29 reference – please see Exhibit___(MJM-6), page 6 of 9.

b. Based on the 100-year upper limit which we set as a default in our analysis, the result is a 100 R0.5 curve based solely on the best-fit criteria for all Iowa curves. Refer to Exhibit___(MJM-6), page 5 of 9. Mr. Spanos is proposing an S1.5 curve, but as Staff notes in its DR-02-013, the 35 S1.5 life/curve does not fit the data very well. It excludes a substantial amount of the observed life table as shown on Exhibit___(MJM-6), page 3 of 9.

Mr. Majoros accepted Mr. Spanos' S1.5 curve. Then, he found the best fit for that curve. It is 59 years. Again, see Exhibit___(MJM-6), page 5 of 9. Mr. Majoros plotted all three curves, i.e. Mr. Spanos' 35 S1.5, the 100 R0.5 very best fit, and the 59 best fit for the S1.5. These plots are shown on Exhibit___(MJM-6), page 6 of 9. The plots visually confirm that a 59 S1.5 is reflective of the entire observed life table, versus Mr. Spanos' 35 S1.5 which disregards about 90% of the observed life table.