















| Kontucky-Amorican Water Company |
| :--- |
| Schodule of Forecastod Capital Expanditures |
| Budget Itemm Bo thru 94 |
| CENTRAL |


 Misc Structures
Communicaton Equipment Non-Telephone Total for Budget titem 90

 12020091

12020092
12020092
12020092
12020092
12020092
12020092

12020082 Miscellaneous Equipment 12020093-1tem 93 - Process Plant Replacement | 2020094 | tem 94-Process Plant additions |
| :--- | :--- |
| 2020094 | Computer soflware |
| 2020094 | Laboratory Equipment | Total for Budget ftem 93 ———Total for Budget Item 94



| $\begin{aligned} & \text { Kentucky-Ameri } \\ & \text { Schedule of For } \\ & \text { Budatitam } 8 \text { in } \end{aligned}$ | an Water Company |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | JDE |  |  |  |  |  |  |  |  |  |  |  |  | Frecasted | Foreasied |
| 120202080 |  |  | Jan | Febo.05 | Ma | Apr-05 | Maz\% 05 | Jun-05 | Julob | $\mathrm{Alu}^{\text {a }}$-5 | Sepo. ${ }^{\text {a }}$ | Oct.05 | Noro 05 | Dec.05 | Toill 2005 | Testreat |
| -1202030 | Mentes | ${ }_{\substack{33109 \\ 33300}}$ | 6,000 |  | \% 5.000 | s 5,000 |  | s. 5.000 | 5.000 | 5.000 | 5,000 | 5.000 | ${ }^{8} 5.000$ | 5,000 | 80.000 | 60,000 |
| ${ }^{120202080}$ |  | ${ }_{\text {333000 }}$ | $\frac{5}{8}$ | \% |  |  |  | 5 . |  |  |  |  |  |  |  |  |
|  | Toalior Bubet tem 80 |  | 5.000 | 5000 | 5,000 | ${ }^{5} 5$ | S 5.000 | ${ }^{5} \quad .5000$ | ${ }^{5} 50000$ | ${ }^{5} 5.000$ | 5.000 | 5.000 | 5000 | 5.00 | 60.00 | 560.000 |
| ${ }^{12020089}$ | Tiem 81-Mains replacementstrelecation Co Coxponse |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{12020081}$ | mains | 331001 | 2,000 | 2,000 | \& 2,000 | ¢ 2,000 | \$ 2,000 | ¢ 2.000 | 2.000 | 2,00 | 2.000 | 2.000 | 2,00 | 2.00 | 24.000 | 24.0 |
|  | Toaltor Buctor tiem 81 |  | S 2.000 | 3 \% 2.000 | S 2.000 | S 2000 | S 2.000 | $5 \quad 2.000$ | \% 2000 | 82000 | 2000 | 2.000 | 2.000 | 2.00 | \% 24,000 |  |
| ${ }_{\text {1202082 }}^{1202082}$ | Trem 82 - -etwork oxtensions © Coeexpene |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{1212020082}$ | Mans | ${ }_{3}^{3310501}$ |  |  |  | s | \% - | s . | s | s | s |  | s | \% |  |  |
|  | Toat lor Butat lem 82 |  | 5 |  |  |  | 5 |  | s | s | s |  | 5. |  |  |  |
| ${ }^{120202083}$ | Hem m3-Hydrant replicemmens |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12020083 | Hydrantis | 335000 | 5 - |  | \% | \% 2,500 | 8 | 2.500 | s | s | ¢ | s | s. | s | 5 5.000 | 5.000 |
|  | Totalfor Eusbot lem ${ }^{\text {B }}$ |  |  |  | ${ }^{5}$. | $5^{5} 2.500$ | s | S 2.500 | s |  |  | s | s | s | ${ }^{5} 5.000$ |  |
| ${ }_{1}^{120202088}$ | Heme 84- Hydrant mw |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{12020084}$ | Hydrants | 335000 | 5 | $s$ |  | , | s | 5. |  | s | s |  | s | s | s |  |
|  | Total lor Eubet teem 89 |  | 5 | S | 5 | s |  | ${ }_{5}$ |  | s |  |  | s | ${ }^{3}$ |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Senices. | 333500 | 1.000 | 8 1.000 | s 1.000 | s 1.000 | ¢ 1.000 | \% 1.000 | \% 1.000 | ¢ 1.000 | 3.1 .000 | 1.000 | 1.000 | 1.000 | 12,000 | 12.000 |
|  | Total tor Bubot teem 85 |  | 1.000 | 31.000 | s 1.000 | Is 1.000 | 3 1.000 | s 1.000 | \% 1.000 | 51.000 | 51.000 | $5 \quad 1.000$ | 5 1.000 | 1.000 | S 12,000 |  |
| 12020086 | Heme 86. Sesilicoss naw |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 3.000 | 4,000 | 4,000 |  |  |  |  |  | ${ }^{36,550}$ |
|  | Toialior Bubot tom 38 |  |  | ${ }^{3} \quad 3.000$ | s 3,000 | ¢ 3.000 | ¢ 3,000 | \% 3.000 | S 4.000 | \% 4.000 | 3 4,000 | 3.000 | 3.000 | 3.000 | 6,9,50 | 36,06 |
| -12020087 | Hem 87 - Melerer 8 meier sotiling spoplaced |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| - $\frac{12020007}{12020087}$ | Mele |  |  |  |  |  |  |  |  |  | ${ }^{5} \quad 1,000$ |  |  |  | 3.000 | 3.000 |
| $-{ }^{12020087}$ | Meter ISSalataions | ${ }_{334200}$ | 500 | - 500 | ${ }^{5}$ \% 500 | ${ }_{5}{ }^{3}$ S 500 | $\frac{5}{5}$ 500 |  | $\frac{5}{500}$ |  |  |  |  |  | \% 6,000 | 5,700 |
|  | Totalifor Bubet tem 87 |  | 1.500 | $5 \quad 500$ | 15 | - 500 | ¢ 500 | \% 1.500 | \% 500 | S 500 | 1.500 | 500 | 500 | 5 S 500 | 9.000 | 8.70 |
| ${ }^{1202008888}$ | Heeme 8 - Metores 8 mater sotiling now |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{120200388}{ }^{12020088}$ | Meeiess Pasic Case | ${ }^{3341700}$ |  |  | -1.500 |  |  |  |  |  |  |  |  | 1.500 |  | s.000 |
| ${ }^{-12202028} \times$ | Meter Ohas | ${ }^{334430} \mathbf{3 4 2 0 0}$ |  | 500 | S 500 | 500 | 500 |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Totalifor Buteet item 88 |  | 500 | S $\quad 500$ | $3 \quad 2000$ | S $\quad 500$ | ¢ 500 | s 2.000 | s 500 | s 500 | \% 2000 | S 500 | 500 | s 2,000 | S 12.000 | \% 12.000 |
| - 12020089 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{12020098}$ | Completes 8 Peerono D Persomal | ${ }_{3}^{3642220}$ |  | ${ }_{5}^{\text {s }}$ | s |  | ${ }_{s}^{\text {s }}$ | s | s | ${ }^{\text {s }}$ |  | ${ }^{\text {s }}$ s, 200 |  |  |  | 8,200 |
|  | Totalifor Eudet tem 89 |  |  | s | $s$ |  | $s$ | $s$ | s | 5 | 3.000 | ¢ 5.200 |  | 5 | 8.200 | 88.200 |



| Kentucky-Amer Schedule of $F_{0}$ | can Water Company acasted Capital Expenditures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Tudgotlem 80 | hir 94 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tri-Glage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | JDE |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12020080 | Itom $80-$ Mains and Hyd , Daposilt Agreament | Acct | Jan-05 | Feb-05 | Mar-05 | Apr-05 | May-05 | Jun-05 | Jul-05 | Aug-05 | Sep-05 | Oct-05 | Now. 05 | Decos | Forecasted | Forreastod |
| ${ }^{12020090}$ | Item 80 -ofice 80 Oeratilopse Conter |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Expendidures |
| 12202090 | Misc Equipment | 347000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 122020080 | Misc Stuctures | 304800 | \$ |  |  |  | s | $\therefore$ | \$ | $\frac{\mathrm{s}}{5}$ - | 6.000 | 3.000 | 1.000 |  | \$ 10.000 | 10.900 |
|  |  |  |  |  |  |  |  |  |  | 5 . |  |  |  |  | s . |  |
|  | Total for Buctet Item 90 |  | S | 5 |  |  | s |  | s | 5 |  |  |  |  |  |  |
|  | tem91-Vabiles |  |  |  |  |  |  |  |  |  |  | 3.000 | 1.000 | 5 | S 10.000 | S 10.000 |
| 12020091 | Trans Equilment Light Trucks |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{120220091}$ | Trans Equipment Other | ${ }^{34141400}$ | $\frac{3}{5}$ |  | $\frac{8}{5} \quad 15,000$ | $\frac{8}{5}$ : |  | $\frac{5}{5}$ | $\stackrel{\square}{8}$ | $\frac{5}{8}=$ |  |  |  |  | 15000 | 15,000 |
| - $\frac{12020091}{1202091}$ | Trans Equipment Autos | ${ }_{341300}$ | $\frac{5}{8}$ |  | $\frac{5}{5}$ : | s |  |  |  |  | \$ | ${ }_{5}^{8}$ |  |  | - |  |
|  | Trans Equipment Heavy Tucks | 341200 | s- |  | 5 - | s |  |  | $\div$ | s |  |  | - |  |  |  |
|  | Total for Bubuet llem 91 |  |  |  | 15.000 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 15.000 |  |  |  |  |  | \$ |  |  |  | S 15 5,000 | \$ 15,000 |
| ${ }^{12020092}$ | Hem 92 -Tools 8 Equipment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12020092 | Tools, Shop, 8 Garage Equipment | 343000 |  |  | s - | \$ - | s | \% | \$ 5.000 | \$ 1.000 | s |  | \$ 4,000 | \$ | \$ 10,000 | 15,000 |
|  | Total for Buctet teem 92 |  |  |  |  |  |  |  | \$ 5.000 | \$ 1.000 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | + |  |  | \& 4,000 |  | \% 10,000 | $5-15.000$ |
| -12020093 | Iteem 93-Process Plant Replacement |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{120200093}$ | Elactric pumping oquipment | 304600 |  | - |  |  | - |  |  |  |  |  |  |  |  |  |
| ${ }^{122200093}$ | Water Treatmentent equopment |  |  |  |  | s |  | \% |  |  |  |  |  |  | $\frac{3}{5}$ |  |
| ${ }^{120220093}$ | Laborator Equipment | ${ }^{344000}$ | $\frac{5}{8}$ | $\stackrel{5}{8}$ | ${ }_{5}{ }^{\text {s }}$ - |  | $\frac{5}{5}$ |  |  | $\frac{5}{5}$ | \% |  | \$ |  |  |  |
| 12020093 | Other tangible property | 348800 |  | 5 | - | s | s- |  | - | \% | - | \% | - | $\stackrel{\text { S }}{5}$ | $\stackrel{5}{5}$ |  |
|  | Total for Bugbet liem 93 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 8 - |  |  |  |
| 12020094 | liem 94- Process Plant adalifons |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{1}^{12020094} 1$ | Computer software | ${ }^{340300}$ | 5 . | \% | \$ - | s | s |  |  | \$ |  |  |  |  |  |  |
|  | Laborar Equpmen! | 344000 |  |  |  | \$ - | \$ - | s |  | s | 5 | S- | ${ }_{5}$ | 5 | \$ |  |
|  | Total for Bucbet item 84 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| contal |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Sub | Amment |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Desscaion |  |  |  | Empontutues | Reserved | Feno. ${ }^{\text {a }}$ | Mar-04 | A0.04 | Maros | Jun 04 | Ju.09- | Aupos | Samo 04 | O9,04 | $\stackrel{\text { Noras }}{ }$ | Deacos | $\xrightarrow{\text { Foreasased }}$ Toatios |
| ${ }^{12020003}$ |  |  | 33107 | 160 |  |  |  |  |  |  |  |  |  |  | s |  | s | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ${ }^{12020003}$ |  | 150 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2020101 | Lex.Seautiv Sriem meovem. |  | 304800 | $5^{733}$ |  | s | 5 |  | s |  | 5. |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 | $s$ | - ${ }^{768}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Tolat for ivoedmen Provect $2 \rightarrow$ | 11202101 |  | ${ }_{763}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12020102 | Lex.Clas militank 3 OMs |  | -381000 | - 778.50 |  |  | \% 29894 | s 150000 | 3.150,000 | \% 180000 | s 100000 | -388032 |  |  | s | s |  | ${ }_{3} 1.1785002$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Tout Tor ivestmen Provect $3 \rightarrow$ | 121202012 |  | 77.550 |  |  | ${ }^{29,94}$ | 180000 | 160000 | 150000 | -160000 | 88632 |  |  |  |  |  | -1.459, |
|  | Lex.Scand Inpovemenis |  | ${ }^{\frac{302030}{3030}}$ | ${ }^{5} \frac{77.615}{28.8181}$ |  |  | ${ }^{\text {s }}$ 5,909 | ${ }^{5}$ S 10.0000 | ${ }^{8}$ 10,000 | ${ }^{3}{ }_{30,985}{ }^{\text {a }}$ | $5 \quad$ - | s |  |  | s |  |  | $40^{293}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 12020103 |  | $-389848$ |  |  | 5.909 | 10,000 | 10,000 | ${ }^{39,985}$ | . |  |  |  |  |  |  | ${ }^{405230}$ |
| ${ }^{20201094}$ | Lex. Sown Countwans. |  | 331007 | + ${ }^{\text {c }} 17$ |  | s | ${ }^{5} \quad 95$ | ${ }^{5}$ [1,546] |  |  | $\bigcirc$ - | s | s | s | s | s | S | $4.2,74$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 120 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | ${ }_{\text {che }}^{(1564)}$ |  |  | 0 |  |  |  |  |  |  | (1,274) |
| 200 |  |  |  | ${ }^{\text {s }}$ | ${ }^{\frac{1,294}{1.94}}$ |  | ${ }_{1}^{1,365}$ | ${ }^{5}$ 25,000 | ${ }^{3}$ 25,000 | ${ }^{3} \quad 25000$ | 50.000 | ${ }^{3}$-1000000 | 156000 | ${ }^{3} 150000$ | S 18.0000 | 150000 | ${ }^{5}+122989$ | 1.0127286 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Toati forinvetmot Procere $6 \rightarrow$ | 12020105 |  | ${ }_{63,52}$ |  |  | 1385 | 25000 | 25,000 | 25000 | 60,000 | 100000 | 150000 | 150,000 | -150000 | 150000 | 122820 | 1,0122828 |
| 12720310 | LExRestmond Res Sta hlo |  | 320100 | \% 229008 | $\bigcirc$ |  | ${ }^{5} 80$ | s |  | s | s | s | s | s | \% | s | 3. | 5220.000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Toat lor inosestmon Provetet $\rightarrow$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 为 |
| 12020207 | Lesstom Res man imer |  | ${ }^{363007}$ |  | ${ }^{16,6,46}$ |  | ${ }^{3}{ }^{246}$ | ¢ 1.000 | - 1.000 | ${ }^{\text {s }}$ 20,400 | ${ }^{5}{ }^{50,000}$ | ${ }^{3}{ }_{50,000}$ | ${ }^{5}$ 8,000 | ${ }^{5}{ }_{\text {10,0,000 }}$ | 150.000 | 100,000 | 68,168 | $\underline{723,51}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ${ }^{12202029}$ |  | 1077946 |  |  | ${ }^{246}$ | 1.000 | 1.000 | 20,40 | 50.00 | 50,000 | 75,00 | 100,000 | 160000 | .10,000 | 87,768 | ${ }^{723,155}$ |
| 12002022 |  |  | -33109 | ${ }^{3.8 .786}$ |  |  | ${ }^{5}{ }^{29}$ | s | 5 . | s |  |  |  | : |  | : | ${ }_{5}$ | 2864 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 11200202 |  | 2776 | $\bigcirc$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12002023 |  |  | Sotaco |  |  |  | \% 220,022 | ¢ 5,000 | - 5,000 | -30,000 | - 180,207 |  |  |  | $s$ |  | s | \% ${ }^{4499089}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ${ }^{12202023}$ |  |  |  | - | ${ }^{28,862}$ |  |  |  |  |  |  |  |  |  |  | ${ }^{462098}$ |
| $\frac{1250212}{12020204}$ | Lex. Sowe of supey Prol |  | 3180000 | -5.304,165 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - 2,0 | ${ }^{\text {s }} 619,007$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



| Schedule of | Amportcom Wation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Investment | Projects (lP's) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Contral |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -190\% |  |  | Sub |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Job\# | Descripition |  | Acct | , an-05 | Feb-05 | 二可-05 | Apro-05 | May-05 | Jun-05 |  |  |  |  |  |  | Forecasted |
|  |  |  |  |  |  |  | Apros | May-05 | Jun-05 | $\cdots$ | Aug-05 | Sep-05 | $0 \mathrm{Ct}-05$ | Nov-05 | Dec-05 | Total: 005 |
|  | Total for livestment Prolect $11 \rightarrow$ | 12029212 |  | 10,000 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | 10,000 | 10.000 | 50,000 | 50,000 | 75,000. | 150,000 | -150,000 | 200.000 | 250,000 | 250,000 | 175,000 | 130,000 | 1,50,000 |
| 12029619 | LLEX-Customer Sevice Sofware |  | 340300 | \$ - |  | \% | \$ | \$ | s |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | $\stackrel{5}{5}$ | ¢ | - | \$ | \$ | 5 | \$ |
|  |  |  |  |  |  | - |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total for Investment Prolect $12 \rightarrow$ | 12029619 |  | 0 |  | - 0 | 0 | 0 |  |  |  |  |  |  |  |  |
| 12029801 | LEX-Integratod Resource P |  |  |  |  |  |  |  |  | - 0 | 0 |  |  | 0 |  | 0 |
| 12029801 | LEx-mitegrated Resource P |  | 339600 | 8 |  | \$ | \$ | \% | \$ | s | \$ | \$ . | s | s | s | \$ - |
|  |  |  |  |  |  | - |  |  |  |  |  |  |  |  |  | \$ - - - - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total for Investment Project $13 \rightarrow$ | 12029801 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 1228001 |  |  |  | - 0 | - 0 |  | 6 | --0 | $\bigcirc$ |  | 0 | 0 |  | 0 |
| 12029808 | LEX-Surge Protection KRS |  | 331001 | ${ }^{5}$ |  | \$ | s - - |  | \$ | s |  |  |  |  |  |  |
|  |  |  |  |  |  |  | + |  |  | S | \$ |  | - | \$ | \$ | \$ |
|  |  |  |  | - |  | -- |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total for investment Project $14 \rightarrow$ | 12029008 |  | 0 |  | 0 |  |  |  |  |  |  |  |  |  |  |
| $\underline{12029809}$ | LEX-Upgrade Cart Winch KRS |  |  |  |  |  |  |  |  | - 0 |  | 0 |  | 0 | 0 |  |
|  | Levpgrade Cant Winarkrs |  | 304800 | 9 |  | 8 | s | 8 | \$ | 5 | \$ | \$ | s | \$ . |  |  |
|  |  |  |  |  |  |  |  |  |  |  | $\bigcirc$ | $\$$ | 5 - | \$ - | s | s |
|  |  |  |  |  |  |  |  |  |  | - -- |  |  |  |  |  |  |
|  | Total for tivestment Project $15 \rightarrow$ | 12029809 |  |  |  | 0 |  |  |  |  |  |  |  |  |  |  |
|  | $\rightarrow$ | 12028809 |  | - 0 | 0 | 0 | - |  |  | -- 0 |  | 0 | 1 - 0 | 0 | 0 |  |
| 12020301 | Elevated Storage Tank 2 MG |  | 330100 | \% 100,000 | \$ 150,000 | \$ 300,000 | \$ 300,000 | \$ 300,000 | \$ 50,000 |  |  |  |  |  |  |  |
| - |  |  |  |  |  |  |  |  | $\bigcirc$ | 13 100,000 | \$ 150,000 | S. 100,000 | \$ 50,000 | \$ | s | \$ 1.600000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total for Investmont Prolect $16 \rightarrow$ | 12020301 |  | 100,000 | 150,000 | 300,000 | 300,000 | 300,000 | 50,000 | 100,000 | 150,000 | 100,000 | 50,000 | 0 | 0 | 1,600,000 |
| 12020302 | Major Hilighway_Relocations |  | 331001 | \$ | s - | \$ . |  | \$ | s . | s . |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  | 5 - | \% - |  |  | \$ | \$. | \$ | \$ - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 |
|  | Total for livestment Prolect $17 \rightarrow$ | 12020302 |  | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 |  |  |  |  |  |
| 12020303 |  |  |  |  |  |  |  |  |  |  |  | 0 | 0 | 0 | 0 |  |
|  | jeectrical Rellability lmpr |  | 304800 | \$ 105,400 | \$. 106,200 | \% 96,400 | \$ 5,200 | \$ 2,200 | \$ 2.200 | \$ 2,200 | 8 | 8 - | \$ | S | \$ | 319,800 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total for Investment Project $18 . \rightarrow$ | 12020303 |  | 105.400 | 106,200 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | 5,200 | 2.200 | 2,200 | 2,200 | 0 | 0. | 0 | 0 | 0 | 319.800 |
| 12020404 | Eusiness Process Efficiency Project \& Orcom Eudget |  | 340300 | - | \$ | \$ | \$ | s | s - | \$ |  | \$ | s |  |  |  |
|  |  |  |  | 0 | 0 | 0. | 0. | 0 | 0 | 0 | 0 | 5 - | $\bigcirc$ | \$ - | 0 |  |
|  |  |  |  | 0 | 0 | 0 | 0 | 0 | , | 0 | 0 | 0 | 0 | 0 | 0 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 |
|  | Total for Investment Project $19 \rightarrow$ | 12020404 |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 ! | 0 | 0 | 0 | 0 |  |
| 12020402 | Major Highway Relocations |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | M, |  | 331001 | 0 | \$ 0 | 13 - |  |  | $5 \quad 0$ | 0 |  | 0 | 5 - | 0 | , |  |
|  |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | $\underline{0}$ | $\bigcirc$ |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



| Kentucky-Amorilian wator company Schedule of Forecasted Capltal Expendilturea Investment Projects ( $\mathrm{PP}^{\mathrm{s}} \mathrm{s}$ ) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| tP |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Job\# | Descraption |  | ${ }_{\text {Acct }}$ | Jan-05 | Feb-05 | Mar-05 | Apr-05 |  |  |  |  |  |  |  |  | Forecasted |
|  |  |  |  |  |  |  |  | May-05 | Jun-05 | Jul-05 | Aug-05 | Sep-05 | Oct-05 | Nov-05 | Deco 05 | Total 2005 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Otai for investment 9 profect $20=$ | 12020402 |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - 0 | 0 | 0 | 0 | 0 |
|  | Major Highway Relocations |  | 331001 | 10.000 | \$ 25,000 | s 25.000 | \$ 25,000 | s 50,000 | \$ 75,000 |  |  | s 25.000 | 8 25,000 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | 60,0 | 3. 25.000 | ${ }^{3} \quad 25,000$ | S 25,000 | 15.000 | 400.000 |
|  |  |  |  | 0 | $\bigcirc$ | 0 |  | 0 |  | $\bigcirc$ | $\bigcirc 0$ | 0 | 0 | 0 | 0 | 0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 |
|  | Total for Investment Prolect $21 \rightarrow$ | 0 |  | 10,000 | 25.000 | 25,000 | 25,000 | 50,000 | 75,000 | 50,000 | 50,000 | 25,000 | 25.000 | 25,000 | 15.000 | 400000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Inciline Car Replacement @ukR |  | 304100 |  | s - | \$ | s | \$ 10,000 | \$ 25,000 | \$ 50,000 | \$ 50,000 | \$ 50,000 | \$ 25,000 | \$ 20,000 | s 20,000 | ¢ 250,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total for Investment Project $22 \rightarrow$ | 0 |  | 0 | 0 |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | 0 | 10,000 | 25,000 | 50,000 | 50,000 | 50,000 | 25,000 | 20,000 | 20,000 | 250,000 |
|  | Sround Storage Tank- -3.0 MG |  | 330400 | \$ | \$ . | \$ | 5 . | [s |  | \$ 5,000 | \$ 10,000 | \$ 10,000 | \$ 20,000 | \$ 20,000 | \$ 10,000 | \$ 75,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total for Investment Project $23 \rightarrow$ | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | , | 0 | 0 | 0 | 5,000 | 10,000 | 10,000 | 20,000 | 20,000 | 10,000 | 75,000 |
|  | Replace Trao Vac System at RR'S |  | 320100 | 5 5.000 | / 5,000 | 5.000 | \$. 5,000 | $s$ | s. | s | \$ . | \$ 25,000 | ¢ 1500,0m | \$ 50,000 | $s$. | \$ 245,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{0}^{0}$ |
|  | Total for Investment Project $24 \rightarrow$ | 0 |  | 5.000 | 5,000 | 5.000 | 5.000 | 0 | 0 | 0 | 0 | 25,000 | 150,000 | 50.000 | 0 | 245,000 |
|  | KRS Filiter Media Replacement--Hyd 3 \& 4 |  | 320100 |  | \$ . | \$ 50,000 | \$ 150,000 | § 30,000 | \$ 20,000 | 5 - | \$ | 5 |  |  |  | S 250,000 |
|  |  |  |  |  |  |  |  |  | , 20,00 | - | . | $\bigcirc$. | - |  |  | ¢ 250,000 |
|  |  | - |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total for Investment Prolect $25-$ | 0 |  | 0 | 0 | 50,000. | 150.000 | 30,000 | 20,000 | 0 | 0 | 0 | 0 | 0 | 0 | 250,000 |
|  | Russell Cave Road Main - $34,000^{\circ}$ of $12^{\prime \prime}$ |  | 331001 | \$ . | \$ | \$ 5,000 | \$ 5,000 | \$ 10.000 | \$ 25,000 | \$ 50.000 | \$ 150,000 | \$ 100,000 | \$ 100,000 | \$ 50,000 | \$ 5,000 | S 500,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total for Investment Prolect $26 \rightarrow$ | 0 |  | 0 | 0 | 5,000 | 5,000 | 10,000 | 25,000 | 50,000 | 150,000 | 100,000 | 10,000 | 50,000 | 5.000 | 500,000 |
|  |  |  | 331001 | \$ - | \$ | - | $15$ | is - |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | \$ - | $\$$ - | \$ - | \$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 |
|  | Total for Investment Project $27 . \cdots$ | 0 |  | 0 | 0 |  | 0 |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 0 | 0 | 0 | $\bigcirc$ | 0 | 0. | 0 | 0 |  |
|  | Reserved |  |  |  | \$ - | \$ - | \$ | \% - | $\$ \quad-$ | - | 5 | s | \$ | \$ | \$ - | \$ |
|  |  |  |  | 0 |  | $\bigcirc$ | - - | $\bigcirc$ | --0 | 0 | --- | 0 | 0 | 0 | 0 |  |
|  |  |  |  |  |  |  |  |  |  | 0 | , | - 0 | 0 | 0 | 0 |  |
|  | Total for Investment Profoct $28 \rightarrow$ | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | 0 |  | 0 | 0 | 0 |  |
|  | Reserved |  |  | 5 |  | - | \$ | \$ - | 5 - - | ¢ - | 5 - | s | 5 | 3 | \$ | 5 |
|  |  |  |  |  | - | 0 | -- 0 | 0 | - 0 | $\bigcirc$ | 0 | 0 | - | 0 | 0 |  |
|  |  |  |  |  |  |  |  |  |  |  | 0 |  | 0 | 0 | 0 | 0 |
|  | Total for Investment Project $29 \rightarrow$ | 0 |  | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |  | - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 |
|  | Reserved |  |  |  |  | s |  | s | $s$ | S | s | \$ | $s$ | \$ . | S | 5 |



| Man American water Compan Schedule of Forecasted Capital Expenditures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Schedule of Forecasted Capital Expenditures Investment Projects (IP's) <br> Central |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Froreasted |
|  |  |  | Sub |  |  | Mara ${ }^{5}$ | Apros | Mey 05 | Jun05 | Julus | Aug 05. | Sep. 05 | Odas | ${ }^{\text {Nou-05 }}$ | Deco.05. | Total 2005 |
|  | -_- Dossciotion |  |  | Jan-05 | Feb-05 | Marab | Apras |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | $\bigcirc$ |  | $\bigcirc$ |  | $\bigcirc$ | $\bigcirc$ |  | $\bigcirc$ |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\bigcirc$ |  |  |
|  | Total for tivestment Prolect $30 \rightarrow$ | $\bigcirc$ |  |  | $\bigcirc$ | 0 | - 0 | $\bigcirc$ | - - | $\bigcirc$ |  |  |  |  |  |  |
|  | Resened |  |  | s - | $5 \quad-$ | 5 - | $5-$ | 5 | - | 5 | $\bigcirc$ | s | 5 | 5 |  |  |
|  |  |  |  | $\bigcirc$ | - - | - | $\bigcirc$ | - 0 | - | --0 | -0. | - 0 | $\bigcirc$ | - $0^{\circ}$ |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total for investment Profect $31-\sim$ | $\bigcirc$ |  |  | $\bigcirc$ |  | 0 | $\bigcirc$ |  | - 0 ? | $\bigcirc$ |  | 0 |  |  |  |
|  | Reseved |  |  |  | 3 - | 3 - | 3 | $3-$ |  | 3 - - | 5 - | 3 - - | ¢ | s - |  |  |
|  |  |  |  |  |  |  | $\bigcirc$ |  |  |  | 0 | - |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Totat Ior Investment Promect $32 \rightarrow$ | $\bigcirc$ |  |  | - |  |  |  |  |  |  |  |  |  |  |  |


| $\begin{aligned} & \text { Kentucky Am } \\ & \text { Schedule of } \end{aligned}$ | merican Water Forecasted Captial Expenditures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Proipets (tP's) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P |  |  |  | Amimurt ${ }^{\text {n }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\text {J }}^{\text {Jobt }}$ | Description |  | Sub Acct |  | $\frac{\text { Transfer }}{\text { Expendtures }}$ |  |  |  |  |  |  |  |  |  |  |  |  | Froceasted |
|  | Descipan |  |  |  | Expendurues | Resened | Feb-04 | Mar-04 | Apro4 | Nay 04 | Jun-04 | Ju.04 | Aug.04 | Sep-04 | ${ }_{0}^{0} \mathrm{Ca}-04$ | Nor-04 | Dec. 04 | Totat 2004 |
| $\frac{12300111}{1230011}$ | New Colurnus spoiect (Tivilage) |  | ${ }^{303200}$ | \$ 2334.422 |  | \$ | \$ 20.45 | \$ | \$ | $5 \quad$. | \$ | \$ | \$ - | \$ | 5 ¢ |  | \$ . | 234,422 |
| . 12300111 | New Columbus Proleet (Tivillage) |  | 304100 | 272,208 | 0 |  | 26,475 | 50,000 | 50,000 | 46,393 |  |  | 0 | 0 | 0 | - | 0 | 445,076 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total for hivestmant Probet 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 12300111 |  | 50.630 | $\bigcirc$ | 0 | 26,475 | 50,000 | 50.000 | 46,393 | 0. | 0 | 0 | 0 | 0 | 0 | 0 | 679498 |
| 12020402 | Owen County Main Exensions |  | 331001 |  |  |  | 0 |  |  |  | $\bigcirc$ | 0 | 0 | 0 | 20,000 | 20.000 | 20,000 | \$ 600.000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total Ior hvestrient Prokect $2 \rightarrow$ | 12020402 |  |  |  |  |  |  |  |  |  |  |  |  | 20000 | 20000 | 20000 | 60000 |
|  | Total 1 P's |  |  | 506.630 | 0 | 0 | 26.475 | 50,000 | 50.000 | 46.393 | 0 | 0 | 0 | ${ }_{0}$ | 20.000 | 20.000 | 20.000 | ${ }^{98}$ |


| $\begin{array}{\|l} \text { Kentucky A } \\ \text { Schedule of } \end{array}$ | nerican Water <br> Forecasted Captiad Expenditures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tri-Vilage. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| If |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Descripition |  | Acal | Jan-05 | Febo-05 | Mar-05 | $\sim_{\text {Aprob }}$ | May-05 | Jum.05 | Jus.05 | Aug.05 | Sep-05 | Oot.05 | Now 05 | Deco. 05 | $\xrightarrow{\text { Forecasted }}$ Titates |
| 12300711 | New Columbus Proiec (ThNilage) |  | ${ }^{303200}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12300111 | New Columpus Proiect (TriNllage) |  | ${ }^{304100}$ | $\bigcirc$ |  |  |  |  |  |  |  |  | $\bigcirc$ |  | - |  |
| - |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total tor hvestment Propect ${ }^{\text {a }} \rightarrow$ | 1230011 |  | 0 |  | 0 | 9 |  | 0. | 0 | $\square$ | - | $\cdots$ |  |  |  |
| 12020402 | Owen Count Mall Exensions |  | -33100 | 20,000 | 20,000 | 20,000 | - 20,000 | 20,000 | 20,000] | 30,000 | 30,000 | 20,000 | 20,000 | 20,000 | . | 240,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total for hvestment Proiecta - - | 12020402 |  | 20000 | 280000 | 20000 | 20000 | 20000 | 20000 | 30000 | 30000 | 20000 | 20000 | 20000 | 0 | 240000 |
|  | Troial P's |  |  | 20,000 | 20,000 | 20.000 | 20,000 | 20.000 | 20,000 | 30,000 | 30,000 | 20,000 | 20.000 | 20,000 | 0 | 240.000 |





| Kentucky－A | erlcan Wot | rcombany |  | tility Plant Plac | ed into Service |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Schedule | Feented | Capltal Exp | enditures |  |  |  |  |  |  |  |  |  |  |  |
| Forecasted | est Year： | 11／30，05 |  |  |  |  |  |  |  |  |  |  |  |  |
| Ease Test $Y$ |  | 0713104 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Code |  |  |  |  |  |  |  |  |  |  |  |  |
| Tememe 80， 94 | 100．00\％ | 1 |  |  |  |  |  |  |  |  |  |  |  |  |
| ［P＇s | 100．00\％ | 2 |  | $=\frac{2}{2004}$ | $-\frac{3}{204}$ | 204 | 2004 | 206 | 2004 | 2084 | 2004 | ${ }_{2004}^{10}$ | 2004 | $\stackrel{-12}{2004}$ |
|  |  |  |  |  |  | Art 04 | May－04 | Junn－04 | Jullou | $\mathrm{Aug}^{\text {a }}$－ 44 | Sevo－24 | Oction | Nov－04 | Dec－04 |
| em | Code | Reserved | Descriplion | Eebe－2004 | Mar－2004 | Apr 2004 | Max－2004 | Jun－2004 | Jun－2 ${ }^{104}$ | Aluaz－2004 | Sep－2004 | Oct－2004 | Nov－2004 | Dec－2004 |
| 20363 | 2 |  | Electical Reliablility mor |  | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 |  |  |
|  | 2 |  |  |  | 0 | 0 |  |  | －0 | － 0 | 0 | 0 | 0 |  |
| 0 | 2 |  |  | 0 | 0 | 0 | 0 | 0 |  |  |  | $\bigcirc$ | 0 |  |
| 0 | 2 |  |  | 0 | 0 | 0 | 0 |  |  | 0 |  |  |  |  |
| 0 | 2 |  |  |  | $\bigcirc$ |  |  |  | 0 |  |  | $-$ | $\bigcirc$ | 611.053 |
| 20404 | 2 |  | Eusiness Processs Efficlency Project \＆Orcem Bur |  |  |  |  |  | － | 0 | ， | 0 | 0 |  |
| $\frac{0}{0}$ | 2 |  |  | － | $\bigcirc$ |  |  |  |  | ， |  | 0 | 0 |  |
| 0 | 2 |  |  | － | 0 | 0 | 0 | 0 | 0. | 0 | $\bigcirc$ | 0 | 0 |  |
| 0 | 2 |  |  |  |  |  |  |  | 0 | 0 | 0 | 0 | － 0 |  |
| 12020402 | 2 |  | Malor Highway Relocations | － 0 | ． | 0 |  |  |  |  |  | 0 |  | 400，000 |
| 0 | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0 | 2 |  |  | ， | 0 | 0 | － 0 |  |  |  |  | 0 |  |  |
| $\bigcirc$ | $\stackrel{2}{2}$ |  |  | 0 | 0 |  | －－ 0 |  |  |  | $\bigcirc$ | 0 | $01$ |  |
| $\bigcirc$ | $\frac{2}{2}$ |  |  | 0 | 0 |  |  | $\stackrel{\square}{6}$ | 0 | 0 |  |  | $0 \cdot$ |  |
| $0$ | 2 |  | Major Highway Relocations |  |  |  | － 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| 0 | 2 |  |  | 0 | 0. | $\bigcirc$ | ， | 0 | $\bigcirc$ | $\bigcirc$ |  | 0 | 0 |  |
| 0 | 2 |  |  | 0 | 0 | 0 | －＿0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| 0 | 2 |  | Indine Car Replacement ©KRS |  |  |  | － 0 | $\bigcirc$ | 0 | 0 | $\bigcirc$ | 0 | $\stackrel{0}{0}$ |  |
| ， | 2 |  |  | 0 | 0 | 0 | 0 | ， | 0 | 0 | 0 | 0 | 0 |  |
| 0 | 2 |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $\bigcirc$ | 0 | 0 |  |
| －－ |  |  |  |  |  |  | 0 |  | 0 |  |  |  |  |  |
| － | $\overline{2}$ |  | Ground Storage Tank－ 3.0 MG |  | $\bigcirc$ | 0 | 0 | 0 | 0 O | 0 | O | 0 | 0 |  |
| ， | 2 |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| 0. | 2 |  |  | 0 | $\bigcirc$ | ． | 0 | $\bigcirc$ | 0 |  | $\bigcirc$ | －0 | 0 |  |
|  |  |  |  | $\bigcirc$ | － | － | 0 | $\bigcirc$ | 0 | 0 | 0 | 0 | 0 |  |
| 0 | 2 |  | Reriace Taskac sistem at res | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | － 0 | 0 |  |
| － | 2 |  |  | ， | 0 | 0 | 0 | 0 | 0 | 0 |  | －－0 | 0 |  |
| 0 | 2 |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | － | 0 |  |
| 0 | 2 |  |  | ， | 0 | 0 | 0 | $\bigcirc$ | $\bigcirc$ | 0 | ！ | －－0 | 0 |  |
| $\bigcirc$ | 2 |  |  | 0 | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |  |  | － |  | $-0$ | 0 |  |
| 0 | 2 |  | KRS Filler Medla Replacement－－Hyd 384 | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\stackrel{0}{0}$ |  | ． |  | 0. | 0 |  |
| 0 | 2 |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|  | 2 |  |  |  | 0 |  |  | $\bigcirc$ | 0 | 0 | 0 |  |  |  |
| 0 | 2 |  |  |  |  |  |  |  | 0 |  |  |  | 0 |  |
| 0 | 2 |  | Russell Cave Road Maln－34，000＇of $12^{\prime \prime}$ |  |  |  |  |  | 0 | 0 | 0 | 0 | 0 |  |
| $\bigcirc$ | －${ }^{2}$ |  |  |  | 0 |  |  | 0 | 0 | 0 | 0 | 0 | 0 |  |
| 0 | 2 |  |  | 0 | 0 | 0 | 0 | 0 | 。 | 0 | 0 | 0 | 0 |  |
| 0 | －${ }^{2}$ |  |  | －－ 0 | 0 | $\bigcirc$ | $\bigcirc$ | 0 | 0 | 0 | ， | 0 | $\bigcirc$ |  |
| － | 2 |  |  | 0 | $\bigcirc$ | 0 | 0 | 0 | $\bigcirc$ | $\bigcirc$ | 0 | 0 | － |  |
| 0 | 2 |  |  | ， | 0 | 0 | 0 | 0 | 0 | 0 | 0 | －0 | －－0 |  |
| 0 | 2 |  |  | 0 | 0 | 0 | 0 | 0 | $\bigcirc$ | 0 | $\bigcirc$ | $\bigcirc$ | 0 |  |
| 0 | 2 |  |  | 0 |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | － 0 |  |
| 0 | 2 |  | Resseved | 0 | $\bigcirc$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | － 0 |  |
| 0 | 2 |  |  | － 0 | O | 0 | 0 | 0 | －0 | 0 | 0 | 0 | 0 |  |
| 0 | 2 |  |  | 0 | ， | 0 | 0 | 0 | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | 0 | 0 |  |
| －－ |  |  |  |  | $\bigcirc$ | 0 | 0 | 0 | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |  |
| 0 | 2 |  | Reserved | 0 | 0 | 0 | 0 | 0 | $\cdots$ | 0 | 。 | － | － |  |
| 0 | 2 |  |  | 0 | 0 |  | 0 | 0 | $\bigcirc$ | 0 | $\bigcirc$ | $\bigcirc$ | － 0 |  |
| 0 | $\frac{2}{2}$ |  |  |  |  |  | $\bigcirc$ |  | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |  | －$\quad 0$ |  |
| 0 | 2 |  |  | 0 |  |  |  | 0 | O | 0 | － | 0 | ， |  |
| 0 | 2 |  | Reserved | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| 0 | 2 |  |  | 0 | $\bigcirc$ | $\bigcirc$ | 0 | 0 | 0 | 0 | 0 | 0 |  |  |
| 0 | 2 |  |  | $\stackrel{0}{0}$ | 0 |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| 0 | 2 |  |  | 0 | ， | ， | ． | 。 | 0 | 0 | 0 | 0 | 0 |  |
| 0 | 2 |  | Resenved |  | 0 | － | ． | 0 | 0 | 0 | 0 | 0 | 0 |  |
| $\bigcirc$ | 2 |  |  | 0 | ， | ． | － | $\bigcirc$ | 0 | 0 | 0 | 0 | 0 |  |
| 0 | 2 |  |  | 0 | 0 | 0 | 0 | $\bigcirc$ | 0 | 0 | 0 | $\bigcirc$ | $\bigcirc$ |  |
|  |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 | － | $\bigcirc$ | － | 0 | － 0 |
| 0 | 2 |  | Reserved | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| ， |  |  |  | 0 | 0 | $\cdots$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| 0 | 2 |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| 0 | 2 |  |  | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | $\bigcirc$ | 0 |  |
| 0 | 2 |  |  |  | 0 | $\stackrel{0}{0}$ | \％ | 0 | S | 0 | 0 |  | 0 |  |
|  |  |  |  | 963.039 | 1．122．648 |  |  |  | $\underline{2,760, i 7 i}$ | 890.000 |  | 931，000 |  |  |




| Kentucky-Ame | an Water | pany |  |  |  |  | Utility Plant Pla | d into Servic |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Schedule of | casted Ca | al Expenditur |  |  |  |  |  |  |  |  |  |
| Forecasted Te | Year: | 11130105 |  |  |  |  |  |  |  |  |  |
| Base Test Yea |  | 07131104 | TRI-VILLAGE |  |  |  |  |  |  |  |  |
|  |  | Cade |  |  |  |  |  |  |  |  |  |
| Itern 80-94 | 100.00\% | 1 |  |  |  |  |  |  |  |  |  |
| IP's | 100.00\% | 2 |  | 10 | 11 | 12 | 1 | 2 | 3 | 4 | ci |
|  |  |  |  | 2004 | 2004; | 2004 | 20005 | 2005 | 2005 | 2005 | 2005 |
| Investment |  |  | - | Oct-04 | Nov-04 | Dec-04 | Jan-05 | Feb-05 | Mar-05 | Apr-05 | May-05 |
| Item | Code | Reserved | Description | Oct-2004 | Nov-2004 ${ }^{\text {a }}$ | Dec-2004 | Jan-2005 | Feb-2005 | Mar-2005 | Apr-2005 | May-2005 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 12020080 | 1 |  | Mains | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| 12020080 | 1 |  | Services | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12020080 | 1 |  | Hydrants | 0 | 0 | 0 | 0 | 0 | 0 | 0. | 0 |
|  |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  |  | -_-...----_- |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | $\square-$ |  |  |  |  |  |  |  |  |
|  |  |  | - - |  |  |  |  |  |  |  |  |
|  |  |  | - - - - - - - - - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
| 12020081 | 1 |  | Mains | 2.000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2.000 | 2,000_ |
|  |  |  | - - - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | -_- - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 12020082 | 1 |  | Mains | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  |  | - |  | - |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
| 12020083 | 1 |  | Hydrants | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,500 |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  | 1 |  | . |  |  |  |  |  |  |  |  |
|  |  |  | - - - |  |  |  |  |  |  |  |  |
|  |  |  | - - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
| 12020084 | 1 |  | Hydrants | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - - - |  |  |  |  |  |  |  |  |
|  |  |  | - $\ldots-\ldots . . . .-$ |  |  |  |  |  |  |  |  |
| 12020085 | 1 |  | Services | 1,000 | 1,000 | 1,000 | 1,000 | 1.000 | 1,000 | 1,000 | 1,000 |
|  |  |  | - |  |  |  |  |  | 1,000 | 1,000 | 1,000 |
|  |  |  | - - |  |  |  |  |  |  |  |  |
|  |  |  | -- |  |  |  |  |  |  |  |  |
|  |  |  | - - |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| -12020086 | - 1 |  | Services | 4,000 | 3,000 | 2,950 | 3,050 | 0 | 3,000 | - - - 3,000 | 3,000 |
|  |  |  | -- |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  | . |  |  |  |  |  |  |
|  |  |  | - - |  |  |  |  |  |  |  |  |
| 12020087 | 1 |  | Meters Plastic Case | 0 | 0 | 0 | 0 | 1,000 | 0 | 0 | 0 |
| $\underline{12020087}$ | 1 |  | Meter Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



| Kentucky-Am | n Water | mpany |  | Brility Plant Pla | ed into Servic |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Schedule of Fo | casted Ca | tal Expenditu |  |  |  |  |  |  |  |  |  |
| Forecasted Tes | Year: | 11/30/05 |  |  |  |  |  |  |  |  |  |
| Base Test Year |  | 07/31/04 | TRI-VLLLAGE |  |  |  |  |  |  |  |  |
|  |  | Code |  |  |  |  |  |  |  |  |  |
| Item 80-94 | 100.00\% | 1 |  |  |  |  |  |  |  |  |  |
| IP's | 100.00\% | 2 |  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|  |  |  |  | 2004 | 2004 | 2004 | 2004 | 2004 | 2004 | 2004 | 2004 |
| Investment |  |  |  | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 |
| Item | Code | Reserved | Description | Feb-2004 | Mar-2004 | Apr-2004 | May-2004 | Jun-2004 | Jul-2004 | Aug-2004 | Sep-2004 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 12020087 | 1 |  | Meter Installations | 0 | 500 | 500 | 250 | 250 | 250 | 250 | 250 |
|  |  |  | - - - - - - - - - - - - - |  |  |  |  |  |  |  |  |
|  |  |  | - - |  |  |  |  |  |  |  |  |
|  |  |  | $\cdots$ |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - - |  |  |  |  |  |  |  |  |
| 12020088 | 1 |  | Meters Plastic Case | 1,125 | 1,125 | 0 | 0 | 0 | 0 | 0 | C |
| 12020088 | 1 |  | Meter Other | 0 | 0 | 1,500 | 0 | 0 | 1,500 | 0 | C |
| 12020088 | 1 |  | Meter Installations | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C |
| - |  |  | - - - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
| 12020089 | 1 |  | Computers \& Periph Mainframe | 0 |  |  |  |  |  |  |  |
| 12020089 | 1 |  | Computers \& Periph Personal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12020089 | 1 |  | Communication Equip-rion-tele | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12020089 | 1 |  | Misc Equipment |  |  |  |  |  |  |  |  |
| 12020089 ~ | 1 |  | Computer Equip \& Periph Other |  |  |  |  |  |  |  |  |
|  |  |  | - - - - - - - - - - |  |  |  |  |  |  |  |  |
|  |  |  | - - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
| 12020090 | 1 |  | Misc Equipment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12020090 | 1 |  | Office Structures | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  |  | Misc Structures |  |  |  |  |  |  |  |  |
|  |  |  | Communication Equipment Non-Telephone |  |  |  |  |  |  |  |  |
|  |  |  | - - - - - - - - - - |  |  |  |  |  |  |  |  |
|  |  |  | - |  | . |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
| 12020091 | 1 |  | Trans Equipment Light Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12020091 | 1 |  | Trans Equipment Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12020091 | 1 |  | Trans Equipment Autos | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12020091 | 1 |  | Trans Equipment Heavy Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12020091 |  |  | Power Operated Equipment |  |  |  |  |  |  |  |  |
|  |  |  | $\square-$ |  |  |  |  |  |  |  |  |
| . |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - - - |  |  |  |  |  |  |  |  |
|  |  |  | $\underline{\square}$ |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
| 12020092 | 1 |  | Electric pumping equipment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12020092 | 1 |  | WT equipment non-media | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12020092 | 1 |  | Tools, Shop, \& Garage Equipment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12020092 |  |  | Laboratory Equipment |  |  |  |  |  |  |  |  |
| - 12020092 |  |  | MiscêllaneousËquipment |  |  |  |  |  |  |  |  |
| -- |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | ..--- |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 12020093 | 1 |  | Electric purnping equipment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - |




| Kentucky-American Water Company |  |  |  | Utility Plant Placed into Service |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Schedule of Forecasted Capital Expenditures |  |  |  |  |  |  |  |  |  |  |  |
| Forecasted Test Year: |  | 11/30/05 |  |  |  |  |  |  |  |  |  |
| Base Test Year: |  | 07/31/04 | TRI-VILLAGE |  |  |  |  |  |  |  |  |
|  |  | Code |  |  |  |  |  |  |  |  |  |
| Item 80-94 | 100.00\% | 1 |  |  |  |  |  |  |  |  |  |
| IP's | 100.00\% | 2 |  | 2 | 3 | 4 |  |  |  |  |  |
|  |  |  |  | 2004 |  |  |  |  | 7 | 8 | 9 |
| Investment |  |  |  | Feb-04 | Mar-04 | 2004 | 2004 | 2004 | 2004 | 2004 | 2004 |
| Item | Code | Reserved | Description | Feb-04 | Mar-04 | Apr-04 | May-04 | Jun-04 | Jul-04 | Aug-04 | Sep-04 |
|  |  |  |  | -2004 | Mar-2004 | Apr-2004 | May-2004 | Jun-2004 | Jul-2004 | Aug-2004 | Sep-2004 |
| 12020093 | 1 |  | Water treatment equipment | 0 | 0 | 0 | 0 |  |  |  |  |
| 12020093 | 1 |  | Water Treatment Non-Media | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12020093 | 1 |  | Laboratory Equipment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12020093 | 1 |  | Other tangible property |  |  |  |  |  |  |  |  |
|  |  |  | - - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
| 12020094 | 1 |  | Computer software | 0 | 0 | 0 |  |  |  |  |  |
| 12020094 | 1 |  | Laboratory Equipment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | $\cdots$ |  |  |  |  |  |  |  |  |
|  |  |  | * |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 12300111 | 2 |  | New Columbus Project (TriVillage) | 0 |  |  |  |  |  |  |  |
| 12300111 | 2 |  | New Columbus Project (TriVillage) | 0 | 0 | 234,422 | 0 | 0 | 0 | 0 | 0 |
|  |  |  |  | 0 | 0 | 0 | 445,076 | 0 | 0 | 0 | 0 |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 12020402 | 2 |  | Owen County Main Extensions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |















Units $=\$$

| District | CPS Code | $\begin{gathered} \text { Project } \\ \text { Code } \\ \hline \end{gathered}$ | Brief Description of Proposed Expenditures | Stage <br> (PNI, P\|A. <br> PCA, <br> New) | $\begin{aligned} & \text { Business } \\ & \text { Plan } 5 \text {-year } \end{aligned}$ total | Prior | $\begin{array}{r} 2005 \\ \text { Period } \\ 1 \\ \hline \end{array}$ | 2 | 3 | 4 | 5 | - 6 | 7 | 8 | 9 | 10 | 11 | 12 | Total <br> 2005 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 04-80 | Malns, Hydrants, Valves, Meters - Depositicontribution | New | 21,657,014 |  | 204,000 | 297,840 | 346,800 | 314,160 | 301,920 | 326,400 | 301,920 | 338,640 | 363,120 | 287,840 | 363,120 | 624,240 | 4,080,000 |
|  |  | 04.81 | Network - Replacement Renewal | New | 3,645,300 |  | 33,600 | 31,200 | 44.400 | 60,600 | 53,400 | 46.000 | 41.400 | 38,400 | 44,400 | 61,200 | 55.400 | 90,000 | 600,000 |
|  |  | 04-82 | Network - Extension | New | 1.631,240 |  | 12,750 | 18,615 | 21,675 | 19,635 | 18,870 | 20,400 | 18,870 | 21,165 | 22,695 | 18,615 | 31,695 | 30,015 | 255,000 |
|  |  | 04.83 | Hydrants - Replacement | New | 135,050 | \% | 1,400 | 1.300 | 1,900 | 2,500 | 2,200 | 2,500 | 1.700 | 1,600 | 1,800 | 2,600 | 4,000 | 2,000 | 25,500 |
|  |  | ${ }^{04-84}$ | Hydrants - New | New | 1,591,890 | ${ }^{\text {P }}$ | 15.000 | 22,300 | 25,500 | 23,100 | 24,200 | 28,000 | 24,200 | 26,900 | 28,700 | 25,500 | 28,700 | 29,900 | 300,000 |
|  |  | 04-85 | Services - Replacement | New | 2,836,750 |  | 12,000 | 19,500 | 41,500 | 25,500 | 39,000 | 36,000 | 42,500 | 60,500 | 77,500 | 46,500 | 59,000 | 40,500 | 500,000 |
|  |  | 04-86 | Services - New | New | 6,081,347 |  | 27,800 | 47,500 | 91,400 | 59,000 | 90,200 | 83,300 | 98,400 | 100,600 | 181,600 | 137.600 | 137,500 | 102,100 | 1,157,000 |
|  |  | 04.87 | Meters - Replacement | New | 4,335,582 |  | 24,500 | 54,700 | 72,900 | 128,200 | 88,200 | 85,600 | 56,400 | 41,600 | 89,800 | 72,700 | 68,300 | 33,900 | 816,800 |
|  |  | 04-88 | Meters - New | New | 3,829,518 | - | 21,800 | 39,300 | 83,500 | 113,200 | 77,900 | 76,450 | 49,800 | 66,800 | 64,850 | 57,000 | 59,900 | 31,200 | 721.500 |
|  |  | 04-89 | ITS Equipment \& Systems | New | 556,040 |  | 500 | 5,800 | 6,100 | 7,700 | 10,400 | 14,200 | 4,200 | 3,300 | 6,200 | 9,000 | 3,300 | 5,800 | 76,500 |
|  |  | 04-90 | Offices and Operations Centers | New | 454,832 | $5$ | 300 | 4,200 | 4,400 | 5,500 | 7,500 | 10,200 | 3,000 | 2,900 | 7,900 | 6,300 | 2,300 | 500 | 55,000 |
|  |  | 04.91 | Vehicles | New | 935,570 | - ${ }^{\text {H }}$ | 20,000 | 35,000 | 85,000 | 85,000 | 15,000 | 0 | 0 | 0 | 0 | 0 |  | - | 200,000 |
|  |  | 04-92 | Tools and Equipment | New | 753.000 |  | 10,000 | 10,000 | 14,200 | 15,000 | 33,300 | 15,000 | 15,000 | 7,800 | 10,000 | 12,800 | 13,900 | 3,000 | 160,000 |
|  |  | 04-93 | Process Piant - Replacement | New | 1,255.000 | 86t | 13,600 | 21,300 | 14,000 | 20,300 | 44,100 | 31,500 | 8,700 | 51,400 | 47,200 | 23,000 | 74,900 |  | 350,000 |
|  |  | 04.94 | Process Plant - Additions | New | 386,600 | $y^{190} 9$ | 0 | 2,000 | 3,000 | 2,000 | 2,900 | 6,500 | 4.500 | 1,200 | 7,300 | 6,700 | 3.400 | 10,500 | 50.000 |
|  |  | 04-95 | Treatment Media Replacement and Process Rehabilitation (capitalized) | New |  | ${ }^{2}$ | 0 | 0 | - | 0 |  | 0 | 0 |  | 0 | 0 |  |  |  |
|  |  | 04-96 | Tank Rehabililition/ Painting (capilalized) | New |  | 䨓 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 |  |  |  |
|  |  | 04-97 | Comprehensive Planning Studies | New | 300,000 |  |  | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  |  | TOTAL RECURRING PROJECTS |  | 50,384,733 | [idy | 397,050 | 610,555 | 816.275 | 861,395 | 809,090 | 780,050 | 870,590 | 762,805 | 953,065 | 777,355 | 905,415 | \#\#\#\#\#\# | 9,347,300 |
|  |  | 01-05 | Russell Cave Road Tank - 1.0 Mg (342) | PIA |  | 1,048,400 | 80,000 | 75,000 | 75,000 | 75,000 | 75.000 | 50,000 | 21,600 | 0 | 0 | 0 | 0 | 0 | 451,600 |
|  |  | 02-04 | Source of Supply Development Project (343) | PIA | 5,000,000 | 589,000 | 10,000 | 10,000 | 50,000 | 50,000 | 75,000 | 150,000 | 150,000 | 200,000 | 250,000 | 250,000 | 175,000 | 130,000 | 1,500,000 |
|  |  | 03.01 | Elevated Storage Tank - 2.0 Mg (342) | PIA |  | 1,100,000 | 100,000 | 150,000 | 300.000 | 300.000 | 300,000 | 50,000 | 100,000 | 150.000 | 100,000 | 50,000 | 0 |  | 1,600,000 |
|  |  | 03-03 | Electrical Reliability upgrades/System Relliability (332) | PIA |  | 780,200 | 105,400 | 106,200 | 96.400 | 5,200 | 2.200 | 2,200 | 2.200 | 0 | 0 | 0 | 0 |  | 319.800 |
|  |  | 04-03 | Owen County Main Exiensions (343) | PIA | 400,000 | 60,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 30,000 | 30,000 | 20,000 | 20,000 | 20,000 | $\bigcirc$ | 240,000 |
|  |  |  | Major Highway Relocations (343) | PIA | 2,930,000 |  | 10,000 | 25,000 | 25,000 | 25,000 | 50,000 | 75,000 | 50,000 | 50,000 | 25,000 | 25,000 | 25,000 | 15,000 | 400,000 |
|  |  |  | Incline Car Replacement ©KRSS (311) | PIA | 1,650,000 |  | 0 | 0 | 0 | 0 | 10,000 | 25,000 | 50,000 | 50,000 | 50,000 | 25,000 | 20,000 | 20.000 | 250,000 |
|  |  |  | Ground Storage Tank-3.0 MG (342) | PIA | 1,800,000 |  | 0 | 0 | 0 | - 0 | 0 | 0 | 5,000 | 10,000 | 10,000 | 20,000 | 20,000 | 10.000 | 75,000 |
|  |  |  | Replace Trac-Vac System at RRS (332) | PIA | 300,000 |  | 5,000 | 5,000 | 5,000 | 5,000 | 0 | 0 | 0 |  | 25,000 | 150,000 | 50,000 |  | 245,000 |
|  |  |  | KRS Filler Meda Replacement - Hyd 3 \& 4 (332) | PNI |  | - | 0 | 0 | 50,000 | 150,000 | 30,000 | 20,000 | 0 | 0 | 0 | , | 0 |  | 250,000 |
|  |  |  | Russell Cave Road Main - 34,000' of 12" (343) | PNi | 1,300,000 | 0 | 0 | 0 | 5,000 | 5,000 | 10,000 | 25,000 | 50,000 | 150,000 | 100,000 | 100,000 | 50,000 | 5,000 | 500.000 |
|  |  |  | Rockwell Village Wastewater Pipeline | PNI |  |  | 10,000 | 25,000 | 50,000 | 50,000 | 100,000 | 50,000 | 50,000 | 15,000 |  | 0 | 0 |  | 350,000 |
|  |  |  | North Broadway Main Replacement (343) | New | 1,900,000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Replace Trash Rake @ KRS (311) | New | 325,000 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Valve House Upgrades at KRS (332) | New | 350,000 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Sludge Handling Improvements - RRS (332) | New | 2,000,000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Yamailton Road Main (343) | ${ }^{\text {New }}$ | 200,000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | North Upper Street Main Replacement Project (343) | New | 1,300,000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | UV Instalation - KRS/RRS (332) | New | 7,800,000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Leestown Road Main Improvements (343) | New | 700,000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Source of Supply Project - Consortium (343) | New | 20,000,000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | KRS Clearwell improvements (332) | New | 1,500,000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | New |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | New | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | New | - |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | New |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | New | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | New | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | LTOTAL INVESTMENT PROJECTS |  | 49,255,000 |  | , 340,400 | 416,200 | 676, | 85,20 | 672,200 | 67,2 | 508,8 | 655,000 | 580,000 | 640,000 | 360,000 | 180,000 | 6,181,400 |

## Kentucky-American Water Company

September 21, 2001
Revised P 01-02
Project No. 11106

## KENTUCKY-AMERICAN WATER COMPANY REVISED CAPITAL INVESTMENT PROJECT 01-02 CLAYS MILL 3 MG GROUND STORAGE TANK

Reference: Investment Project Memorandum dated September 5,2000, Strategic Business Plans for 1999 and 2000

## ESTIMATED COST

| Previous Estimated Cost | $\$ 100,000$ |
| :--- | :--- |
| Previous 2001 Expenditure | $\$ 100,000$ |
|  |  |
| Revised Estimated Cost | $\$ 1,500,000$ |
| Revised Prior Expenditure | $\$ 100,000$ |
| Proposed 2002 Expenditure | $\$ 100,000$ |
| Proposed 2003 Expenditure | $\$ 1,300,000$ |

It is recommended that the budget be revised to include construction funding. The original authorized expenditures were for design only. The purpose of the project is to equalize demand during peak periods, provide fire flows, and improve system reliability within the distribution network.


Kentucky-American Water Company
Revised 2001 IP 01-02
Clays Mill 3 MG Ground Storage Tank
Project No. 11106
September 21, 2001
Page 2

## DISCUSSION

On June 13,2000, Kentucky-American Water Company pumped a record amount of water into its Lexington area distribution system. That day, a total of 66.37 MGD was pumped from its treatment plants. The previous maximum day of record was 64.67 MGD in 1998. Additionally, the maximum hourly pumpage rate on that day was 107 MGD, an increase of approximately 12 MGD over the previous maximum hour event that took place in 1998. A tank crucial to one of KAWC's largest customers was critically low for several hours this day, thus fire protection for this area was low and other tanks were at minimum volume levels. Finally, all available pumps were operating, including all tanks and the pumps at both plants which were operating at full rated capacity.

Kentucky-AmericanWater Company has twelve storage facilities in its distribution system with a total volume of 16.84 MG . These storage facilities are used to provide fire protection and equalize pressures during high demand periods. Reliability is provided through storage and diesel capabilities at the treatment plants. Kentucky-Americanhas worked with the Kentucky Public Service Commission to determine an appropriate level of storage that is cost effective and meets the objectives of health, safety and reliability for its customers. Because of this continued dialogue with the Commission staff, Kentucky-American has received approval to operate with storage below the volume equal to one average day that is required by Kentucky regulations. However, based on the operations during the latest peak day event and continued growth within the system, it is imperative that Kentucky-American increase its storage capacity in order to continue to provide fire protection and reliability to its distribution system.

Since the maximum day of record, KAWC has added several new demands to its existing system. These system demands include sale for resale to Harrison County Water Association for $100,000 \mathrm{gpd}$, connecting 1100 customers in Clark County for $350,000 \mathrm{gpd}$, increased sale for resale to North Middletown of $100,000 \mathrm{gpd}$, and approximately 3000 new customers. The proposed tank is critical to meeting system reliability and is the most efficient way to meet peak period demands, provide fire protection and allow for continued growth. The tank will be located on property in south Lexington that is an existing tank site to minimize construction costs. This will allow Kentucky-American to utilize existing piping to the site and expand the existing pumping on-site capabilities. This existing tank site is located in the middle of a high growth area and is an excellent location to optimize the use of the additional facilities.

Kentucky-American Water Company<br>Revised 2001 IP 01-02<br>Clays Mill 3 MG Ground Storage Tank<br>Project No. 11106<br>September 21, 2001<br>Page 3

Design is scheduled for completion in 2001, with minor construction activities to begin in 2002 and completion in 2003. The cost estimate was based on the design engineer's estimate and will vary based upon contractor installation prices. This estimate is projected to be accurate within plus ten to minus twenty-five percent.


Richard C. Svindland. P.E.
Senior Operations Engineer


KENTUCKY-AMERICAN WATER COMPANY
REVISED CAPITAL INVESTMENT PLAN PROJECT 01-02
CLAYS MILL 3 MG GROUND STORAGE TANK


| KENTUCKY-AMERICAN WATER COMPANY REVISED CAPITAL INVESTMENT PLAN PROJECT 01-02 CLAYS MILL 3 MG GROUND STORAGE TANK |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { DESGRPTIION } \\ & \text { OF ACTVITY } \end{aligned}$ | $\begin{gathered} \text { ENTITY } \\ \text { RESPONSIBLE } \end{gathered}$ | $\left\|\begin{array}{c\|} 2001 \\ \text { carcover } \end{array}\right\|$ | Jan | Feb | Mar | Apr | May | Jun | ${ }^{2002}$ | ${ }^{\text {Aug }}$ | Sep | Oct | Nov | Dec | $cTOTAL 2002$ |
| Preliminan Desion | KAWC / Consultant | S 115.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Final Design | Consultant | S 75.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Const. Admin. 5 Inspection | Kawc/ Consultant |  |  |  |  |  |  |  |  |  |  |  |  |  | \$ 5.000 |
| Materials | KAWC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Construction | Contractor |  |  |  |  |  |  |  |  |  |  |  |  |  | \$ 37,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL |  |  | \$. | \$ 250 |  | \$ 2.500 | \$7,250 |  | 250 | 250 | 250 | 250 | 250 |  | s 82000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | + 22.000 |
| O8C (+1-5\%) |  | \$ 2,840 |  | \$ 10 | 10 | \$ 130 | \$ 3.860 | \$ 10 | \$ 10 | \$ 10 | 10 | \$ 10 | \$ 10 | 10 | \$ 4.080 |
| Overitead ( + (-2\%) |  | $\frac{8}{5}$ | 8. | \% 10 | \$ 10 | S. 50 | S 1.550 | S 10 | \$ 10 | \$ 10 | \$ 10 | $5 \quad 10$ | \$ 10 | ¢ 10 | \$ 1.690 |
|  |  | 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | ¢ 750 |  |  |  |  | 1.330 | 1.090 | 1.100 | 1,100 | 1,100 | 1,100 | 1.100 | 1.100 | \$ 11,410 |
| CASH FORECAST |  | S 100,000 | \$5 590 | \$ 860 | Is 860 | \$3.300 | \$83,990 | \$ 1.360 | \$ 1.370 | 151.370 | S 1.370 | /5 1.370 | S 1.3 | \$ 1.370 | \$ 99, 180 |


| KENTUCKY-AMERICAN WATER COMPANY REVISED CAPITAL INVESTMENT PLAN PROJECT 01-02 CLAYS MILL 3 MG GROUND STORAGE TANK |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DESCRIPTIONOF ACTIVITY | ENTITY RESPONSIBLE | $2001 \& 02$ Carryover | - ${ }^{2003}$ |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \text { TOTAL } \\ & 2003 \\ & \hline \end{aligned}$ |
|  |  |  | Jan |  |  | Apr | May | Jun | Jul | Aug | Sep | OCt | Nov | Dec |  |
| Preliminary Design | KAWC / Consultant | S 15,000 |  |  |  |  |  |  |  |  |  |  |  |  | \$ - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Final Design | Consultant | \$ 75,000 |  |  |  |  |  |  |  |  |  |  |  |  | \$ |
| Const. Admin. / Inspection | KAWC / Consultant | \$ 5.000 |  |  |  |  |  |  |  |  |  |  |  |  | \$ 45,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Materials | KAWC | \$ 40,000 |  |  |  |  |  |  |  |  |  |  |  |  | \$ 110,000 |
| Constuction | Contrgector | \$ 37,000 |  |  |  |  |  |  |  |  |  |  |  |  | \$ 993,480 |
| Misc. Company Labor | KAWC | \$ 4.520 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | S |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL |  | \$ 176,520 | \$156,540 | \$126,540 |  | \$ 86.540 |  | \$86.540 | \$ 06.540 | \$86,540 | \$ 86.540 | \$ 86,540 | S 86.540 | \$ 86.540 | \$1.148.480 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ORC ( $+\ldots .5 \%$ ) |  | \$ 6,920 | \$ 7,830 | \$ 6,330 | \$ 4,330 | \$ 4,330 | \$ 4.330 | \$ 4.330 | \$ 4,330 | \$ 4,330 | \$ 4,330 | \$ 4.330 | \$ 4,330 | \$ 4,330 | \$ 57,460 |
| Overhead ( $+/ \ldots 2 \%$ ) |  | \$ 3,580 | \$ 3.130 | \$ 2.530 | \$ 1.730 | \$ 1.730 | \$ 1,730 | \$ 1.730 | \$ 1,730 | \$ 1,730 | \$ 1.730 | \$ 1.730 | \$ 1.730 | \$ 1.730 | \$ 22,960 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| AFUDC |  | \$ 12.160 | 2,570 | 3,270 | 3.680 | 4,220 | 4.770 | 5,310 | 5.850 | 6.390 | 6.930 | 7,470 | 8.010 | 8,550 | \$ 67,020 |
| CASHFORECAST |  | \$ 199,180 | \$170,070 | \$138,670 | \$ 96,280 | \$ 96,820 | \$97,370 | \$ 97,910 | \$ 98,450 | \$ 98,990 | 1\$99,530 | 51000070 | \$100,610 | \$101,150 | \$1,295,920 |

## KENTUCKY-AMERICANWATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL <br> CLAYS MILL 3 MG GROUND STORAGE TANK

| Determination of Revenue Requirement |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Authorized Rate of Return on Common Equity |  |  |  |  | 11.00\% |
| Federal Income Tax Rate |  |  |  |  | 35.00\% |
| Return on Common Equity before FIT |  |  |  |  | 16.92\% |
| State Income Tax Rate |  |  |  |  | 8.25\% |
| Required Rate of Return on CE for Project |  |  |  |  | 18.44\% |
| Common Equity Ratio for Project |  |  |  |  | 40.00\% |
| Weighted Cost of Common Equity before Tax |  |  |  |  | 7.38\% |
| Long Term Debt Ratio for Project |  |  |  |  | 60.00\% |
| Estimated Cost Rate for New Debt |  |  |  |  | 8.00\% |
| Weighted Cost of Debt |  |  |  |  | 4.80\% |
| Total Pre-Tax Cost of Capital |  |  |  |  | 12.18\% |
| Total Estimated Cost of Project |  |  |  | \$ | 1,500,000 |
| Investment by Others |  |  |  |  | 0 |
| Net Investment Financed by Company |  |  |  | \$ | 1,500,000 |
| New Common Equity \$ | \$ 600,000 |  |  |  |  |
| New Long Term Debt | 900,000 |  |  |  |  |
| Total Revenue Requirement Amount |  |  |  |  | Rate |
| Required Pre-Tax Operating Income |  | \$ | 182,700 |  | 12.18\% |
| Depreciation Rate | 1.180\% |  | 17,700 |  | 1.18\% |
| Property Tax Rate | 0.7037\% |  | 10,556 |  | 0.70\% |
| Change in Operation \& Maint. Expense |  |  | 0 |  | 0.00\% |
| Revenue from New Customers |  |  | 0 |  | 0.00\% |
| Total Net Revenue Requirement |  | \$ | 210,956 |  | 14.06\% |
| Revenue Tax Rate | 0.14537\% |  | 307 |  | 0.02\% |
| Total Revenue Requirement |  | \$ | 211,263 |  | 14.08\% |
| Latest 12 Months Revenue - 06/30/2001 |  |  | ,071,359 |  |  |
| Required Price Increase |  |  | 0.53\% |  |  |

# KENTUCKY-AMERICANWATER COMPANY PROPOSED DESIGN INVESTMENT PROJECT 01THREE MILLION GALLON GROUND STORAGE TANK 

Reference: 1992 Least/Comprehensive Planning Study, Project B-13; 1993 and 2000 Storage Capacity Analyses, Strategic Business Plans for 1999 and 2000

## SUBJECT OF STUDY

The need to equalize pressures and provide fire flows and system reliability through finished water storage located in the distribution system.

## RECOMMENDATION

A 3.0 million gallon ground storage tank should be designed and constructed in the distribution system to provide fire flows and system reliability and to equalize demands within the system. This facility should be located on the site of existing storage to reduce costs.

## ESTIMATED COST

| Total Estimated Cost | $\$ 100,000$ |
| :--- | :--- |
| Proposed 2001 Expenditure | $\$ 100,000$ |

## ADEQUACY

The proposed investment project is adequate for engineering design, survey, and bidding services to properly locate the new tank. A revision to the current project will be made after construction bids are received.


Kentucky-American Water Company<br>Proposed 2001 IP 01-<br>Three MG Ground Storage Tank<br>Project No. 11106<br>September 5,2000<br>Page 2

## DISCUSSION

This capital investment will initiate design services for the new three (3) MG tank. Using current and projected system demands, the IRP to be completed in late 2000 will determine which existing site (Hume Road, Clays Mill or Parkers Mill) will be most effective in having additional storage added to the site. The tank will be a ground storage facility, and will share the pump station with the existing tank on the site. Based on recent system operations, including the new record maximum day pumpage, it is obvious that this tank is necessary. Peak system demands in the northwestern and western sections of the distribution system caused low pressure for numerous residential and commercial customers. The continued residential growth in this area will only increase system demands during hot and dry weather. This additional tank is critical to meeting system reliability and is the most efficient way to meet peak period demands while providing fire protection. Design will also include dechlorinationfacilities on site to allow for dechlorination while the tank is drained for maintenance.

The Kentucky Public Service Commission Title 807, Chapter 5 - Utilities, Section 4 Continuity of Service, paragraph (4) states "the minimum storage capacity for systems shall be equal to the average daily consumption." KAWC does not currently meet this requirement. The 1992 Least/Comprehensive Planning Study and the 1993 Storage Capacity Analysis outlined the need for three additional three (3) MG tanks in the main service area and two additional tanks in the north high service area. The 1993 Storage Capacity Analysis proposed the use of a 50-50 spilt between storage capacity and back-up power facilities. Kentucky-Americanwould be able to provide one-half average daily consumption in storage and be able to produce and pump onehalf average daily consumption using backup or auxiliary power at the treatment facilities. In 1993 the Public Service Commission approved the Storage Capacity Analysis and granted a variance to KAWC until 2005. Two of the five necessary tanks have already been constructed with the completion of the three (3) MG Clays Mill ground storage tank and the 750,000 gallon elevated Briar Hill Road tank. In 2000, KAWC initiated discussions with the PSC to explore a further variance of storage needs, however, it is clear from system operations that this tank is necessary. Those discussions are still ongoing for future storage needs.

Kentucky-American Water Company<br>Proposed 2001 IP 01-<br>Three MG Ground Storage Tank<br>Project No. 11106<br>September 5,2000<br>Page 3

Design is scheduled for 2001, with constructionto begin in 2002 and completion in 2003. A revision to the current proposed investment project will be presented once design is complete and construction costs can be accurately projected. It is estimated that construction will cost $\$ 1,400,000$. The proposed design cost is within an accuracy of plus or minus 10 percent.


Richand C. Svindiand
Operations Engineer


## NOR/rcs

## KENTUCKY-AMERICAN WATER COMPANY

 PROPOSED 2001 CAPITAL INVESTMENT PLAN PROJECT 01-THREE (3) MG GROUND STORAGE TANK

| ITEM | RESPONSIBLE ENTITY | TOTAL ESTIMATED COST |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Preliminary Design | KAWC / Consultant | \$ | 15,000 |
|  |  |  |  |
| Final Design | Consultant | \$ | 75,000 |
|  |  |  |  |
| Company Labor | KAWC | \$ | 4,529 |
|  |  |  |  |
|  | Sub-Total | \$ | 94,529 |
|  |  |  |  |
| O\&C (3\%) |  | \$ | 2,836 |
|  |  |  |  |
| Engineering Overhead (2\%) |  | \$ | 1,891 |
|  |  |  |  |
|  | Sub-Total | \$ | 99,255 |
|  |  |  |  |
| AFUDC |  | \$ | 744 |
|  |  |  |  |
|  | Total | \$ | 100,000 |


| KENTUCKY-AMERICANWATER COMPANY PROPOSED 2001 CAPITAL INVESTMENT PLAN PROJECT 01THREE (3) MG GROUND STORAGE TANK |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DESCRIPTION OF ACTIVITY | $\begin{gathered} \text { ENTITY } \\ \text { RESPONSIBLE } \\ \hline \end{gathered}$ | - JAN | FEB | MAR | APR | MAY | JUN | $\frac{2001}{1_{\mathrm{JUL}}^{2}}$ | $\mathrm{AUG}$ | SEPT | OCT | NOV | DEC | $\begin{aligned} & \text { TOTAL } \\ & 2001 \\ & \hline \end{aligned}$ |
| Preliminary Design | KAWC/ Consultant |  |  | \$ 5,000 | \$ 5.000 | \$5,000 |  |  |  |  |  |  |  | \$ 15.000 |
| Final Design | Consultant |  |  |  |  | \$25,000 | \$25,000 | \$25,000 |  |  |  |  |  | S 75,000 |
| Company Labor | KAWC |  |  |  |  |  | \$ 2,029 | \$2.500 |  |  |  |  |  | \$ 4.529 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL |  |  |  | \$ 5,000 | \$ 5,000 | \$30,000 | \$27,029 | \$27,500 |  |  |  |  |  | \$ 94.529 |
| O8C (3\%) |  |  |  |  | \$ 150 |  |  |  |  |  |  |  |  | \$ 2,836 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Overtead ( $2 \%$ ) |  |  |  | \$ 100 | \$ 100 | \$ 600 | \$ 541 | \$ 550 |  |  |  |  |  | ${ }_{5}$ \% 1,891 |
| AFAUDC |  |  |  | 39.38 | 39.38 | 236.25 | 212.85 | 216.58 |  |  |  |  |  | $15 \quad 744$ |
| CASHFORECAST |  |  |  | \$ 5,289 | \$ 5.289 | \$31.736 | \$28.593 | \$29.092 | \$ |  |  |  |  | \% 100.000 |

## KENTUCKY-AMERICANWATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL THREE (3) MG GROUND STORAGE TANK

| Determination of Revenue Reauirement |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Authorized Rate of Return on Common Equity |  |  |  |  | 11.00\% |
|  |  |  |  |  | 35.00\% |
| Return on Common Equity before FIT |  |  |  |  | 16.92\% |
| State Income Tax Rate |  |  |  |  | 8.25\% |
| Required Rate of Return on CE for Project |  |  |  |  | 18.44\% |
| Common Equity Ratio for Project |  |  |  |  | 40.00\% |
|  |  |  |  | Weighted Cost of Common Equity before Tax | $738 \%$ |
| Long Term Debt Ratio for Project |  |  |  |  | 60.00\% |
| Estimated Cost Rate for New Debt |  |  |  |  | 7.00\% |
|  |  |  |  |  | 4.20\% |
| Total Pre-Tax Cost of Capital |  |  |  |  | 11.58\% |
| Total Estimated Cost of Project |  |  |  | \$ | 1,500,000 |
| Investment by Others Net Investment Financed by Company |  |  |  |  | 0 |
|  |  |  |  | \$ | 1.500.000 |
| New Common Equity $\$$ 600,000 <br> New Long Term Debt 900,000  |  |  |  |  |  |
|  |  |  |  |  |  |
| Total Revenue Reauirement |  |  | Amount |  | Bate |
| Required Pre-Tax Operating Income |  | \$ | 173,700 |  | 11.58\% |
| Depreciation Rate | 2.200\% |  | 33,000 |  | 2.20\% |
| Property Tax Rate | 0.7037\% |  | 10,556 |  | 0.70\% |
| Change in Operation \& Maint. Expense |  |  | 0 |  | 0.00\% |
| Revenue from New Customers |  |  | 0 |  | 0.00\% |
| Total Net Revenue Requirement |  | \$ | 217,256 |  | 14.48\% |
| Revenue Tax Rate | 0.14537\% |  | 316 |  | 0.02\% |
| Total Revenue Requirement |  | \$ | 217,572 |  | 14.50\% |
| Latest 12 Months Revenue - 06/30/2000 |  |  | 39,128,658 |  |  |
| Required Price Increase |  |  | 0.56\% |  |  |

# Approved at Board of Directors' Meeting December 11, 2001 

 AmericanWater Works Service Company, Inc.1025 Laurel Oak Road. P.O. Box 1770 • Voorhees, New Jersey 08043 • (856) 346-8201 • Fax (856) 346-6360

October 1,2001
File No. 380-8362

## KENTUCKY-AMERICAN WATER COMPANY <br> REVISED INVESTMENT PROJECT 01-03 DISTRIBUTED CONTROL SYSTEM IMPROVEMENTS

Reference: Investment Project Memorandum dated September 13, 2000; 2000 and 2001 Strategic Business Plans.

| Previous Estimated Cost | $\$ 94,000$ |
| :--- | ---: |
| Budget 2001 Expenditures | 94,000 |
| Revised Estimated Cost | $\$ 650,000$ |
| Revised 2001 Expenditure | 94,000 |
| Proposed 2002 Expenditure | 100,000 |
| Proposed 2003 Expenditure | 456,000 |

An upward revision of the investment project budget is recommended to allocate funding for design/build system integration. The approved budget is only for the preliminary design and bidding phase, which is complete. The requested funding reflects actual bid pricing from system integrators.


Kentucky-American Water Company<br>Revised IP 01-03<br>Distributed Control System Improvements<br>October 1,2001

The proposed expenditures are to complete an upgrade of the existing distributed control system (DCS) at Kentucky-American Water Company. This system currently monitors and controls the Kentucky River Station and Richmond Road Station treatment plants, as well as the remote distribution storage tanks and booster stations. The existing system was installed in the mid-1980s and has been expanded several times. Much of the hardware and software is obsolete and no longer supported by the manufacturers. Additionally, the system has grown to a point that cannot be reliably supported by the existing hardware and software resulting in down time and loss of data.

The proposed improvements consist of minor hardware upgrades to the RTUs and data concentrators, replacement of the workstation hardware, installation of all new software, and improvements to the control logic, alarming strategies, and reporting capabilities. The upgraded system will include expanded remote access capabilities, which will improve response time to alarm events and allow for efficient and secure supervisory access to the system. The proposed improvements will be adequate to handle current needs as well as future expansion without concern for compromising the reliability and integrity of the system.

The total project cost estimate is accurate to within -20 to +0 percent given the fact that it reflects actual pricing from system integrators based on the detailed preliminary design.


David M. Reves, P.E.


# KENTUCKY-AMERICAN WATER COMPANY REVISED INVESTMENT PROJECT 01-03 DISTRIBUTED CONTROLSYSTEM IMPROVEMENTS 

Detailed Cost Estimate

|  | September 2000 | October 2001 |
| :--- | ---: | ---: |
| Preliminary Engineering | $\$ 80,000$ | $\$ 65,000$ |
| Bidding | 10,000 | 5,000 |
| Construction Engineering \& Management |  | 45,000 |
| Utility Plant Construction |  |  |
| $\quad$ Acct \# 346 -Communication Equipment |  | $\underline{460,000}$ |
| $\quad$ Electrical \& Controls |  | $\$ 575,000$ |
| Omissions \& Contingencies | $\underline{50,000}$ |  |
| AFUDC | $\underline{490,000}$ | $\$ 625,000$ |
| TOTAL | $\underline{4,000}$ | $\underline{25,000}$ |
| 6650,000 |  |  |





## American Water Works Service Company, Inc.

1025 Laurel Oak Road • P.O. Box 1770 • Voorhees, New Jersey 08043 • (856) 346-8201 • Fax (856) 346-8360

September 13,2000
File No. 380-8362
IP 01-03
Proje+ID - 11107
KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PROJECT DISTRIBUTED CONTROL SYSTEM IMPROVEMENTS

Reference: 2000 Strategic Business Plan

## SUBJECT

Deficiencies and obsolescence of the existing distributed control system (DCS) for the production facilities and distribution system.

## RECOMMENDATION

A comprehensive upgrade of the DCS is recommended to modernize and integrate the present monitoring and control functions

## ESTIMATED COST

| Total Estimated Cost | $\$ 94,000$ |
| :--- | :--- |
| Proposed 2001 Expenditure | $\$ 94,000$ |



Kentucky-American Water Company
Proposed 2001 IP
DistributedControl System Improvements
September 11,2000

## ADEQUACY

The recommended funding is adequate for design and bidding of the DCS improvements.

Kentucky-AmericanWater Company
Proposed 2001 Investment Project
Distributed Control System Improvements
September 13,2000

## DISCUSSION

Kentucky-AmericanWater Company (KAWC) owns and operates an intake at the Kentucky River, two water treatment plants, and numerous distribution system facilities. Computer based distributed control system (DCS) technology was installed at these facilities in a step-wise manner over the past ten years. The equipment in the earliest DCS that was installed at the Richmond Road Station is obsolete and unreliable resulting in the occasional loss of data. The Kentucky River Station DCS cannot communicate with the Richmond Road Station DCS. More recently installed DCS hardware and software at the Richmond Road Station is not compatible with the original DCS at Richmond Road. Furthermore, the existing DCS has minimal reserve capacity for additional functions and very limited capabilities to export data for operational reports and other functions.

This Investment Project is recommended to: replace the existing data concentrators and operator interfaces (i.e., work stations); upgrade 40 of the existing remote telemetry units; upgrade the software, programs, displays and reports; provide a frame relay for communication and data access from anywhere in the system; provide a structured query logic server and firewall to permit the sharing of data with other Water Company functions, but without affecting the integrity of the data. The recommendedimprovements will create an integrated DCS to handle all current monitoring, control and reporting functions and to accommodate additional functions in the future.

The total project cost for the recommended improvements is estimated at $\$ 650,000$ within -20 to +10 percent.



Director - Design

# KENTUCKY-AMERICAN WATER COMPANY DISTRIBUTED CONTROL SYSTEM IMPROVEMENTS 

Detailed Cost Estimate

## REH/bem

9113100
Okyip $\backslash$ Distributed Control System Impr.doc


## KENTUCKY-AMERICANWATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL DESIGN SCADA IMPROVEMENTS

| Determination of Revenue Requirement |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Authorized Rate of Return on Common Equity |  |  |  |  | 11.00\% |
| Federal Income Tax Rate |  |  |  |  | 35.00\% |
| Return on Common Equity before FIT |  |  |  |  | 16.92\% |
| State Income Tax Rate |  |  |  |  | 8.25\% |
| Required Rate of Return on CE for Project |  |  |  |  | 18.44\% |
| Common Equity Ratio for Project |  |  |  |  | 40.00\% |
| Weighted Cost of Common Equity before Tax |  |  |  |  | 7.38\% |
| Long Term Debt Ratio for Project |  |  |  |  | 60.00\% |
| Estimated Cost Rate for New Debt |  |  |  |  | 7.00\% |
|  |  |  |  |  | 4.20\% |
| Total Pre-Tax Cost of Capital |  |  |  |  | 11.58\% |
| Total Estimated Cost of Project |  |  |  | \$ | 650,000 |
|  |  |  |  |  | 0 |
|  |  |  |  | \$ | 650,000 |
| New Common Equity $\$ \quad 260,000$ <br> New Long Term Debt 390,000 |  |  |  |  |  |
|  |  |  |  |  |  |
| Total Revenue Requirement |  |  | mount |  | Bate |
| Required Pre-Tax Operating Income |  | \$ | 75,270 |  | 11.58\% |
| Depreciation Rate | 4.790\% |  | 31,135 |  | 4.79\% |
| Property Tax Rate | 0.7037\% |  | 4,574 |  | 0.70\% |
| Change in Operation \& Maint. Expense |  |  | 0 |  | 0.00\% |
| Revenue from New Customers |  |  | 0 |  | 0.00\% |
| Total Net Revenue Requirement |  | \$ | 110,979 |  | 17.07\% |
| Revenue Tax Rate | 0.14537\% |  | 162 |  | 0.02\% |
| Total Revenue Requirement |  | \$ | 111,141 |  | 17.09\% |
| Latest 12 Months Revenue-06/30/2000 |  |  | 128,658 |  |  |
| Required Price Increase |  |  | 0.28\% |  |  |

# KENTUCKY-AMERICANWATER COMPANY PROPOSED DESIGN INVESTMENT PROJECT 01ONE MILLION GALLON PUMPED STORAGE FACILITY 

Reference: 1992 Least/Comprehensive Planning Study, Project B-8; 1993 and 2000 Storage Capacity Analyses, Strategic Business Plans 1997, 1998, 1999,2000

## SUBJECT

The need to equalize pressures, provide fire flows, and improve system reliability through finished water storage located in the north section of the distribution system.

## RECOMMENDATION

A one (1) million gallon pumped storage tank should be designed and constructed in the northern Fayette County section of the distribution system to provide fire flows and system reliability, and to equalize demands within the system.

## ESTIMATED COST

| Total Estimated Cost | $\$ 200,000$ |
| :--- | ---: |
| Proposed 2001 Expenditure | $\$ 150,000$ |
| Proposed 2002 Expenditure | $\$ 50,000$ |

## ADEQUACY

The proposed investment project funds are adequate for engineering design, survey, and land acquisition and bidding services to properly locate the new tank.


Kentucky-American Water Company
Proposed 2001 IP 01-
Russell Cave Road Pumped Storage Facilities
September 5,2000
Page 2

## DISCUSSION

This capital investment will initiate design services for the new one (1) MG tank to be located on a new site in the northern section of the distribution system as recommended in the 1992 Least Cost/Comprehensive Planning Study. Part of that task will be to negotiate land acquisition. This tank is critical to the continued operations and reliability in the rapidly growing Scott County area. On peak demand days, many high elevation areas in Scott County experience low pressure. It is anticipated that this tank will provide better reliability for Toyota Motor Manufacturing and will reinforce the area where new bulk sales will be provided to the Harrison County Water Association. The tank will also allow for the Muddy Ford tank to be taken out of service for maintenance. The Muddy Ford tank, which was built in 1989, is currently so critical to Scott County and Toyota operations that it could not be painted without shutting down Toyota. A recent inspection projected the life of the paint on the tank to be an additional five years. In that time frame, additional storage for the area must be available. Design will also include dechlorination facilities on site to allow for disinfection and adequate treatment during tank draining.

The Kentucky Public Service Commission Title 807, Chapter 5 - Utilities, Section 4 Continuity of Service, paragraph (4) states 'the minimum storage capacity for systems shall be equal to the average daily consumption." KAWC does not currently meet this requirement. The 1992 Least/Comprehensive Planning Study and the 1993 Storage Capacity Analysis outlined the need for an additional three (3) MG tank in the main service area and two additional tanks in the north high service area. The 1993 Storage Capacity Analysis proposed the use of a $50-50$ spilt between storage capacity and back-up power facilities. In 1993 the Public Service Commission approved the Storage Capacity Analysis and granted a variance to KAWC until 2005. Two of the five necessary tanks have already been constructed with the completion of the three (3) million gallon Clays Mill ground storage tank and the 750,000 gallon elevated Briar Hill Road tank. In 2000, KAWC initiated discussion with the PSC to explore the possibility of a further variance, however, it is clear from operational history that this proposed tank is absolutely necessary. The discussions with the PSC are ongoing with regard to future storage needs.

Kentucky-AmericanWater Company
Proposed 2001 IP 01-
Russell Cave Road Pumped Storage Facilities
September 5,2000
Page 3
Design will be complete in 2002, and construction will begin in 2003 with completion in 2004. It is estimated that construction will cost $\$ 1,300,000$ including pumping facilities. The accuracy of this estimate is plus/minus 15 percent.


Kevin W. Kennoy Operations Engineer


NOR/kwk

## KENTUCKY-AMERICAN WATER COMPANY PROPSOED DESIGN INVESTMENT PLAN PROJECT 01ONE MILLION GALLON PUMPEDSTORAGE FACILITY

## Detailed Cost Estimate

| Item | Category | Estimate |
| :---: | :---: | :---: |
| Preliminary and Final Design | Contract | \$75,000 |
| Administration | Company | 5,000 |
| Surveying | Contract | 4,000 |
| Land Purchase and Legal Services | Company | 96,200 |
|  |  | \$180,200 |
| O\&C (5\%) |  | 9,010 |
| Engineering Overhead (2\%) |  | 3,604 |
|  |  | \$192,814 |
| AFUDC |  | 6,722 |
|  |  | \$199,536 |
| SAY |  | \$200,000 |
| /sdb |  |  |
| 9/21/00 |  |  |
| Okyipt 01 lMG Pumped Storage Fac.doc |  |  |



0.0075
AFUDC InterestRate

# KENTUCKY-AMERICAN WATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL Russell Cave Road Pumped Storage Facilities 

| Determination of Revenue Reauirement |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Authorized Rate of Return on Common Equity |  |  |  | 11.00\% |
| Federal Income Tax Rate |  |  |  | 35.00\% |
| Return on Common Equity before FIT |  |  |  | 16.92\% |
| State Income Tax Rate |  |  |  | 8.25\% |
| Required Rate of Return on CE for Project |  |  |  | 18.44\% |
| Common Equity Ratio for Project |  |  |  | 40.00\% |
| Weighted Cost of Common Equity before Tax |  |  |  | 7.38\% |
| Long Term Debt Ratio for Project |  |  |  | 60.00\% |
| Estimated Cost Rate for New Debt |  |  |  | 7.00\% |
| Weighted Cost of Debt |  |  |  | 4.20\% |
| Total Pre-Tax Cost of Capital |  |  |  | 11.58\% |
| Total Estimated Cost of Project |  |  |  | \$ 1,500,000 |
| Investment by Others |  |  |  | 0 |
| Net Investment Financed by Company |  |  |  | \$ 1,500,000 |
| New Common Equity \$ | \$ 600,000 |  |  |  |
| New Long Term Debt | 900,000 |  |  |  |
| Total Revenue Requirement |  |  | Amount | Rate |
| Required Pre-Tax Operating Income |  | \$ | 173,700 | 11.58\% |
| Depreciation Rate | 2.200\% |  | 33,000 | 2.20\% |
| Property Tax Rate | 0.7037\% |  | 10,556 | 0.70\% |
| Change in Operation \& Maint. Expense |  |  | 0 | 0.00\% |
| Revenue from New Customers |  |  | 0 | 0.00\% |
| Total Net Revenue Requirement |  | \$ | 217,256 | 14.48\% |
| Revenue Tax Rate | 0.14537\% |  | 316 | 0.02\% |
| Total Revenue Requirement |  | \$ | 217,572 | 14.50\% |
| Latest 12 Months Revenue-06/30/2000 |  |  | 39,128,658 |  |
| Required Price Increase |  |  | 0.56\% |  |


| Project 01-11 | : |
| :--- | :--- |
| Kentucky American - New Columbus Mains/Owen County |  |
| Project Manager | $:$ |
| Rroject Status | $:$ |
| : PROJECT CHANGE REQUEST |  |

### 1.0 SUMMARY

This project was approved as InvestmentProject in2001 as part of the conditions for the acquisition of the Tri-Village Water District in Owen County. Kentucky American agreed to invest $\$ 1,800,000$ towards the design and construction of water mains, a storage tank, and booster pumps to feed the New Columbus area of Owen County. It was anticipated that 240,000 feet of 3,4 and 6 -inch mains be installed to serve approximately 235 new customers.
1.1 Project Objectives

A key driver for the acquisition of the Tri-Village Water District in Owen County was the extension of new water lines to unserved areas of rural Owen County. Kentucky American Water committed to the project and the acquisition closed in August2001.
1.2 Changes Requested

The extensions of water mains has been very successful in Owen County. Nearly 115 more customers than originally anticipated have signed up for water service. The project was anticipated to be complete in the fall of 2003. Because of extremely favorable pipe installation costs and in order to fully leverage grant money received in Owen County for water main extensions, Kentucky American has proposes to extend additional mains under the current contracts for an additional $\$ 315,000$. PVC pipe cost increases eliminated any $\mathrm{O} \& \mathrm{C}$ in the budge! ©f the project. This additional work will serve another 100 customers. The additional work will extend the project until February 2004.
1.3 Reasons for Changes

The Owen County Judge Executive has been very successful in receiving grant monies and is supportive of Kentucky American Water. His support was instrumental in the acquisitionand has been key to the additional acquisition of the Elk Lake Homeowners Water Association and now the City of Owenton water and sewer operations. This additional work will provide additional customers at a lower per customer cost than the original work.
1.4 Revised Cost and Program

- Increase project cost $\$ 315,000$.
- Extend project program completion to February 2004.
1.5 Project Issues and Risks

There is $\quad 1$ risk a: with this project. Kf n \& meric $\boldsymbol{\mathrm { W }}$ would like to continue to work with the Owen $\partial x$ ty Judge Executive to leverage available grant monies for extensions into unserved areas.
2.0 INTRODUCTION
$2.1 \quad 1 \quad 10 \mathrm{j}$ is at $90 \%$ complete. The nk has been pect in service $\exists$ d water is on some of the mains. This $r$ w.li be spent ID nber 2003 and January-February 2004 and represents an increase of $17.5 \%$.
3.0 THE CHANGE PROPOSAL
3.1 The Owen County Judge Executivehas been very aggressive in promoting water line extensions,
which has generated an enthusiasm among residents in Owen County. Kentucky American hopes to continue to work with the residents to provide water line extensions in a timely manner.
3.2 If the expenditure increase is deferred, it would likely promote hard feelings with residents in Owen County, and the price would likely be much higher for installation at a future date. A local contractor has provided a very favorable installation cost of less than $\$ 10$ per foot to continue work efforts. Because this area is close to Scott County and the Toyota Manufacturing facility, it is anticipated that residential growth will occur with water service and improved infrastructure in the area.
3.3 There are essentially no other options than deferring the project for future work. Because the Judge has successfully received $\$ 1.4$ million in state grants, it is anticipated that with Kentucky American's partnership the Judge will continue to be successful in receiving grants.
3.4 It is recommended that the price increase and additional expenditures be approved at this time, to allow the project to continue as currently tracked.
3.5 Detail the effect of any change in the investment driver targets under which the project is being undertaken utilizing Purpose Codes. Include primary and secondary business drivers.

| Purpose <br> Code | Description | $\%$ | Measure | Units | Target |
| :--- | :--- | :--- | :--- | :--- | :--- |
| AC02 | Post Acquisition <br> Committed <br> Expenditures | 100 |  |  |  |
|  |  |  |  |  |  |

### 4.0 POST PROJECT APPROVAL FINANCIALSTATEMENT

4.1 See attachment.
4.2 There is no anticipated significant variation in operational expenditure since the Investment Project Memoranda was approved.
4.3 Since there were no other alternatives, an economic analysis has not been performed.
5.0 EFFECT OF CHANGE ON PROJECT COMPLETION
5.1 Easement acquisition has delayed some of the main installation, which was originally scheduled to be completed in August 2003 but was revised in early 2003 to the end of the year. With the additional main installations, the project will carryover into 2004. The tank was placed in service in October 2003 and the booster station will be placed in service in November 2003.

### 6.0 ISSUES AND RISKS

6.1 Currently, there are no significantissues or risks other than maintaining the enthusiasm and support of the Owen County residents. The additional main extensions are not expected to cause any significant increase in operational expenditures.

### 7.0 RECOMMENDATION

7.1 It is Iecommended that the Capital Investment Management Committee grant ap pro for th incre it ital expendilures of $\$ 315,000$ for at thil ije $\quad \mathrm{t}$ if $\$ 2,115,000$ and an extension
of project completion until February 2004.

| PROJECT REVIEW |  |  |
| :--- | :--- | :--- |
|  | Signature: | Date: |
| Asset Owner or nominated Asset <br> Manager I Capital Program <br> Manaor |  |  |
| Operations Manager |  |  |
| Project Manager (Deliverer) |  |  |
| Finance Representative |  |  |
|  |  |  |
| RECOMMENDED FOR APPROVAL : PNI Only |  |  |
| VP Technical Service |  |  |
| Others (as nominated by VP <br> Technical Services) |  |  |

## APPENDICES

A1 PCA Control Data Sheet
Associatedform - CMF3.55
A2 Detailed Estimate of Cost
$t \leq \quad \mid 1$ of estimated costs presented in sufficient detail to support the recommended expenditure. To facilitate "budget to actual" expenditure analysis, to primary it estima line items (see "Utility Plant Construction") shall form the basis for project set-up in the "job cost" accounting system. Secondary cost estimate line item detail shall be provided if necessary to better conve) e scope of the primary line item expenditure. Co st categories for : fuction it will livy follow the 1984 NARUC Wal ir Utility PI it a system
Standard primary cost categories have also been establishedfor indirect capital costs such as preliminaryengineering, detailed design, permit acquisition, etc. A list of these prime categories is attached. Line items for AFUDC, capitalization of utility subsidiary charges, omissions and contingencies ( $\mathrm{O} \& \mathrm{C}$ ), etc. are to be included, if appropriate. Expenditurestransferred from other investment projects shall also be itemized. The estimate shall also include any costs of removal associated with the project but these costs are not to be included in the "Estimated Cost" for the project.

## A3 Economic Analysis

An "Economic Analysis of the Impact of Capital Spending Proposal" will be attached. The analysis will address the revenue requirement and rate impact of the project's capital expenditure and operating costs. If an investment will result in an operating expense increase/reduction, or
an increase in revenue through additional sales, the analyses will consider the economic impacts. Present Value Spreadsheet Summary

A4 Schedule IForecast
A bar chart presenting the anticipated schedule of significant components of the project (study, design, permitting, construction, easement acquisition, etc.), and the American Water System entity (Utility Subsidiary, System Engineering, etc.) responsible for the activity.

A5 Sketches
If appropriate, a legible and informative drawing or sketch should be appended to show the location of facilities, such as main extensions. When large drawings are needed, they should be folded as neatly as possible to a size of $81 / 2^{\prime \prime}$ by $11^{\prime \prime}$. Also, if appropriate, include an area map of the system so the project can be identified as to its relationship with the system in general.
A6 Other project specific information

Author's Name(s)
Date
Version ( 1.0 for first submission)
AMERICAN WATER - SOUTHEASTREGION-KENTUCKY AW/CMF3.50 CAPITAL INVESTMENTMANAGEMENT COMMITTEE - 1112003 ISSUE 1.0

## Revision History:

| Version | Date | Summary of Changes |
| :--- | :--- | :--- |
| 1.0 | 11110103 | Issue |
|  |  |  |
|  |  |  |
|  |  |  |

## KENTUCKY AMERICAN WATER

## REVISED INVESTMENT PLAN PROJECT 01-11

NEW COLUMBUS MAIN EXTENSIONS TRI-VILLAGE WATER DISTRICT - OWEN COUNTY

| ITEM | RESPONSIBLE ENTITY | TOTAL ORIGINAL ESTIMATED COST | TOTAL REVISEDESTIMATED COST |  |
| :---: | :---: | :---: | :---: | :---: |
| Administration | KAWC | \$ 10,000 | \$ | 10,000.00 |
| Design | Consultant | \$ 125,000 | \$ | 475,000.00 |
| Materials | KAWC | \$ 500,000 | \$ | 440,000.00 |
| Inspection | KAWC | \$ 38,500 | \$ | 50,000.00 |
| Construction | Contractor | \$ 925,000 | \$ | 1,100,000.00 |
|  | Sub-Total | \$ 1,598,500 | \$ | 2,075,000 |
| O\&C |  | \$ 79,940 | \$ | - |
| Engineering Overhead |  | \$ 31,990 | \$ | 2,070.00 |
|  | Sub-Total | \$ 1,710,430 | \$ | 2,077,070 |
| AFUDC |  | \$ 84,890 | \$ | 37,930.00 |
|  | Total | \$ 1,795,320 | \$ | 2,115,000 |
|  | Estimate | \$ 1,800,000 | \$ | 2,115,000.00, |



| KENTUCKY AMERICAN WATER REVISED INVESTMENT PLAN PROJECT 01-11 NEW COLUMBUS MAIN EXTENSIONS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| description <br> FACTIVITY | $\left\lvert\, \begin{aligned} & \text { ENSTITYY } \\ & \text { RESPONIBLE } \end{aligned}\right.$ | ${ }^{2003}$ |  |  |  |  |  |  |  |  |  |  |  |  | ${ }^{\text {TOTOAL }}$ |
|  | RESPONSIBLE |  |  |  | Mar | Apr | May | Jun | Jul | Aug. | Sep | Oct | Nov | Dec |  |
| Administration | Kawc | 10,000 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Design | Consultant | $\frac{5}{5} 441.170$ |  |  |  |  |  |  |  |  |  |  |  |  | \$ 33,830 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Materials | KAWC | \$ 440,000 |  |  |  |  |  |  |  |  |  |  |  |  | \$ |
| Inspection | kAwC | \$ 43.500 |  |  |  |  |  |  |  |  |  |  |  |  | ¢ 6.500 |
| Inspection |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \$ 6.500 |
| Constuction | Contractor | \$ 950,760 |  |  |  |  |  |  |  |  |  |  |  |  | S 149,240 |
|  | - |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL |  | \$1,885,430 | \$136,000 | \$ 53,570 |  | \$. | \$ |  |  |  |  |  |  |  | \$ 189.570 |
| 08 C |  | - | \$. | s- | s | s. | \$ |  |  |  |  |  |  |  | S |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Overhead |  | 5 - | \$. | \$ 2.070 | \$. | \$ - | 8 - |  |  |  |  |  |  |  | \% 2.070 |
| AFUDC |  | S 37.930 |  |  |  |  | - |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CASH FORECAST |  | \$1,923,360 | \$136,000 | \$ 55.640 | \$ | \$ | \$ | \$ | s | \% | \% | 5 | \$ | S | S 191.640 |

## KENTUCKY AMERICAN WATER ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL NEW COLUMBUS MAIN EXTENSIONS <br> REVISED 12-03-03

| Determination of Revenue Reauirement |  |  |  |
| :---: | :---: | :---: | :---: |
| Authorized Rate of Return on Common Equity |  |  | 11.00\% |
| Federal Income Tax Rate |  |  | 35.00\% |
| Return on Common Equity before FIT |  |  | 16.92\% |
| State Income Tax Rate |  |  | 8.25\% |
| Required Rate of Return on CE for Project |  |  | 18.44\% |
| Common Equity Ratio for Project |  |  | 40.00\% |
| Weighted Cost of Common Equity before Tax |  |  | 7.38\% |
| Long Term Debt Ratio for Project |  |  | 60.00\% |
| Estimated Cost Rate for New Debt |  |  | 6.30\% |
| Weighted Cost of Debt |  |  | 3.78\% |
| Total Pre-Tax Cost of Capital |  |  | 11.16\% |
| Total Estimated Cost of Project |  |  | \$ 2,115,000 |
| Investment by Others |  |  | 0 |
| Net Investment Financed by Company |  |  | ¢ 3115 nnn |
| New Common Equity \$ 846,000 |  |  |  |
| New Long Term Debt 1,269,000 |  |  |  |
| Total Revenue Reauirement |  | mount | Bate |
| Required Pre-Tax Operating Income | \$ | 236,034 | 11.16\% |
| Depreciation Rate 1.180\% |  | 24,957 | 1.18\% |
| Property Tax Rate 0.8810\% |  | 18,633 | 0.88\% |
| Change in Operation \& Maint. Expense |  | 28,402 | 1.34\% |
| Revenue from New Customers |  | $(213,252)$ | -10.08\% |
| Total Net Revenue Requirement | \$ | 94,774 | 4.48\% |
| Revenue Tax Rate 0.14537\% |  | 137 | 0.01\% |
| Total Revenue Requirement | \$ | 94.911 | 4.49\% |
| Latest 12 Months Revenue-11/30/2002 | \$ | 753,801 |  |
| Required Price Increase |  | 12.59\% |  |

# Kentucky-AmericanWater Company 

1025 Laurel Oak Road • P.O. Box 1770 • Voorhees, New Jersey 08043 A (609) 346-8220 2401

## KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PLAN PROJECT 01-11 NEW COLUMBUS AREA MAIN EXTENSIONS TRI-VILLAGE WATER DISTRICT - OWEN COUNTY

Reference: Investment Project Memorandum 01-08 dated November 24, 1999.

## SUBJECT

The extension of mains in rural Owen County.

## RECOMMENDATION

It is recommended that approximately 240,000 feet of 3,4 and 6 -inch PVC mains, along with a booster pump station and storage tank be installed in the southeast portion of Owen County to serve the New Columbus area.

## ESTIMATED COST

Total Estimated Cost
Proposed 2001 Expenditure
Proposed 2002 Expenditure
Proposed 2003 Expenditure
\$1,800,000
\$ 51,000
\$1,355,000
\$ 394,000

## ADEQUACY

The proposed investment project funds are adequate far design, property acquisition and construction.


## Kentucky-American Water Company

Proposed IP 01-11
Project No. 11112
New Columbus Area Main Extensions
August 24,2001
Page 2

## DISCUSSION

Kentucky-American Water Company (KAWC) closed the acquisition of the Tri-Village Water District in Owen County (TVWD) on August 2, 2001. The acquisition was approved by the KAWC Board of Directors under P 01-08.

During negotiations with TVWD Board of Directors, it was agreed as part of the merger that KAWC would invest $\$ 1,800,000$ towards the design and construction of water mains, water storage tank and booster pumps as required to feed the New Columbus area of Owen County. The estimated $\$ 1,800,000$ amount was derived using a financial model of the existing 1,635 customers in TVWD service area and the potential for an additional 280 customers in the proposed New Columbus area The agreement between TVWD and KAWC was made with the understanding that rates for TVWD would be increased at the next rate case filed with the PSC (expected within 2 years of closing) in order to recover the investment.

Due to the large amount of pipe length on this project, construction methods will follow typical TVWD standards for rural main installation. The mains will be installed in road right-ofway wherever easements cannot be negotiated at no cost. The mains are being sized for domestic use only, and PVC pressure class pipe will be used in lieu of ductile iron wherever possible.

The project may increase or decrease in scope, or if requested by the County Judge Executive, the budget amount increased to provide water service to other rural areas in the vicinity (Leaning Oak and Natlee Slatin roads) with the understanding that these additional costs would be recovered in rates and the next rate case filing.

This project is part of the commitment required under the acquisition of TVWD and the additional revenue requirement will be funded with a future rate increase for the entire TriVillage System.


## KENTUCKY-AMERICANWATER COMPANY

PROPOSED DESIGN INVESTMENT PLAN PROJECT 01-11
NEW COLUMBUS MAIN EXTENSIONS TRI-VILLAGE WATER DISTRICT - OWEN COUNN

| ITEM | RESPONSIBLE ENTITY | TOTAL ESTIMATED COST |  |
| :---: | :---: | :---: | :---: |
| Administration | KAWC | \$ | 10,000 |
| Design | Consultant | \$ | 125,000 |
| Materials | KAWC | \$ | 500,000 |
| Inspection | KAWC | \$ | 38,500 |
| Construction | Contractor | \$ | 925,000 |
|  | Sub-Total | \$ | 1,598,500 |
| O\&C (5\%) |  | \$ | 79,940 |
| Engineering Overhead (2\%) |  | \$ | 31,990 |
|  | Sub-Total | \$ | 1,710,430 |
| AFUDC |  | \$ | 84,890 |
|  | Total | \$ | 1,795,320 |
|  |  | \$ | 1,800,000 |




| KENTUCKY-AMERICANWATER COMPANY PROPOSED DESIGN INVESTMENT PLAN PROJECT 01-11 NEW COLUMBUS MAIN EXTENSIONS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DESCRIPTION | ENTTY | 2001802 | 2003 |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \text { TOTAL } \\ & 2003 \\ & \hline \end{aligned}$ |
| OF ACTVITY | RESPONSIBLE | Caryover | Jan | Feb | Mar | Apr | May | Jun |  | Jul | Aug | Sep | Oct | Nov | Dec |  |
| Administration | KAWC | \$ 10,000 |  |  |  |  |  |  |  |  |  |  |  |  |  | s |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Design | Consuliant | \$ 125,000 |  |  |  |  |  |  |  |  |  |  |  |  |  | s |
| Materials | KAWC | S 375,000 |  |  |  |  |  |  |  |  |  |  |  |  |  | \$ 125,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Inspection | Kawc | \$ 19,250 |  |  |  |  |  |  |  |  |  |  |  |  |  | \$ 19,250 |
| Construction | Contractor | \$ 750,000 |  |  |  |  |  |  |  |  |  |  |  |  |  | \$ 175,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | S 17.000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL |  | \$1,279,250 | \$183,850 | S 38,850 | \$ 38,850 | \$ 30,850 | \$ 38.850 |  |  |  |  |  |  |  |  | \$ 319.250 |
| O8C (5\%) |  | ${ }_{\text {\% }}^{5}$ \%3,990 |  |  |  |  |  |  |  |  |  |  |  |  |  | \$ 15,950 |
| (0) |  | ${ }_{5}^{5}$ |  |  |  |  |  |  |  |  |  |  |  |  |  | S 15,950 |
| Overthead ( $2 \%$ ) |  | \% 25,590 | \$ 3.280 | \$ 780 | \$ 780 | \$ 780 | \$ 780 |  |  |  |  |  |  |  |  | \$ 6.400 |
| AFUDC |  |  | 9.530 | 9.380 | 9.630 | 9.870 | 10.110 |  |  |  |  |  |  |  |  | \$ 48.520 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CASH FORECAST |  | \$1,405,200 | \$184,850 | \$ 50,950 | \$ 51,200 | \$ 51,440 | \$ 51,680 |  | \$ |  | 9 | / |  |  | s | \$ 390.120 |

## KENTUCKY-AMERICANWATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL NEW COLUMBUS MAIN EXTENSIONS

| Determination of Revenue Requirement |  |  |  |
| :---: | :---: | :---: | :---: |
| Authorized Rate of Return on Common Equity |  |  | 11.00\% |
| Federal Income Tax Rate |  |  | 35.00\% |
| Return on Common Equity before FIT |  |  | 16.92\% |
| State Income Tax Rate |  |  | 8.25\% |
| Required Rate of Return on CE for Project |  |  | 18.44\% |
| Common Equity Ratio for Project |  |  | 40.00\% |
| Weighted Cost of Common Equity before Tax |  |  | 7.38\% |
| Long Term Debt Ratio for Project |  |  | 60.00\% |
| Estimated Cost Rate for New Debt |  |  | 8.00\% |
| Weighted Cost of Debt |  |  | 4.80\% |
| Total Pre-Tax Cost of Capital |  |  | 12.18\% |
| Total Estimated Cost of Project |  |  | \$ 1,800,000 |
| Investment by Others |  |  | 0 |
| Net Investment Financed by Company |  |  | \$ 1,800,000 |
| New Common Equity \$ 720,000 |  |  |  |
| New Long Term Debt 1,080,000 |  |  |  |
| Total Revenue Requirement |  | mount | Bate |
| Required Pre-Tax Operating Income | \$ | 219,240 | 12.18\% |
| Deoreciation Rate 1.180\% |  | 21,240 | 1.18\% |
| Property Tax Rate 0.8810\% |  | 15,858 | 0.88\% |
| Change in Operation \& Maint. Expense |  | 0 | 0.00\% |
| Revenue from New Customers |  | $(134,400)$ | -7.47\% |
| Total Net Revenue Requirement | \$ | 121,938 | 6.77\% |
| Revenue Tax Rate 0.14537\% |  | 178 | 0.01\% |
| Total Revenue Requirement | \$ | 122,116 | 6.78\% |
| Latest 12 Months Revenue - 06/30/2001 | \$ | 701,502 |  |
| Required Price Increase |  | 17.41\% |  |

## Kentucky-American Water Company

2300 Richmond Road . Lexington, Kentucky 40502 • (859)269-2386 • Fax (859) 268-6327<br>September 21,2001<br>Proposed IP 02-01<br>Project No. 11205

## KENTUCKY-AMERICAN WATER COMPANY <br> PROPOSED INVESTMENT PROJECT 02- ol LEESTOWN ROAD WATER LINE IMPROVEMENTS

Reference: $\quad$ Strategic Business Plans for 2000 and 2001.

## SUBJECT OF STUDY

To improve reliability and flows in the distribution system.

## RECOMMENDATION

It is recommended that funds be authorized for the design, bidding, and construction of 10,000 feet of 16 -inch water main along Leestown Road to improve fire flows and increase distribution system reliability. It is also recommended that funds be authorized for the design of an additional 33,000 feet of 16 -inch water main along Leestown Road, with construction to occur in the future.

## ESTIMATED COST

| Total Estimated Cost | $\$ 700,000$ |
| :--- | :--- |
| Proposed 2002 Expenditure | $\$ 700,000$ |

## ADEQUACY

The proposed investment project is adequate for engineering design, bidding services and constructionfor the Leestown Road Water Line Improvements.


Kentucky-AmericanWater Company<br>Proposed IP 02-ol<br>Leestown Road Water Line Improvements<br>Project No. 11205<br>September 21,2001<br>Page 2

## DISCUSSION

This capital investment will initiate design, bidding, easement acquisition, and construction services for a new 16 -inch water main along the Leestown Road (US 421) corridor. Installed in Leestown Road is an 8 -inch water main that extends outward from the City of Lexington into rural Fayette County and into a small portion of Scott and Woodford Counties. The main heads in a northwesterly direction for approximately 10 miles with water sales along the way and ultimately to the City of Midway in Woodford County. Customers served by this main include the Federal Medical Center (FMC), which houses 1,800 inmates and is one of KAWC's top 10 customers, and the Veterans Administration(VA) Hospital.

In recent years, individual customers including industrial customers, Midway, FMC and the VA Hospital have increased their demands due to expansions. Additionally, the first four miles of the above mentioned corridor is experiencing rapid growth for residential and commercial customers. A 16 -inch main has been installed parallel to the existing 8-inch main in new residential developments in the area The City of Midway has also indicated that it will increase its demands by 200,000 gallons per day due to the construction of an industrial park.

During the summers of 2000 and 2001, numerous customer complaints were received regarding low pressures along the Leestown Road corridor. The continued residential growth in this area will only increase system demands during hot and dry weather. This main is critical to maintaining system reliability not only for fire flows and system reinforcement but also for low pressure problems. This project also provides a future opportunity for regionalization with communities in the area and will enable continued growth.

This project is needed immediately to improve service and reliability for our existing customers. The main will be designed with adequate capacity to accommodate known future developments along the corridor. The potential for regionalization enhances the value of this project and will only help to facilitate future extensions of water lines in Fayette, Scott and Woodford Counties.


#### Abstract

Kentucky-American Water Company Proposed IP 02- Leestown Road Water Line Improvements Project No. 11205 September 21,2001 Page 3

Construction for the first 10,000 feet of main is scheduled for 2002. Construction of the additional 33,000 feet of main is expected within the next five years depending on growth and regionalization efforts. To take advantage of economies of scale, the entire design work will be completed at this time. It is estimated that total construction will cost $\$ 2,500,000$. The proposed design and construction cost is within an accuracy of plus or minus 10 percent.




NOR/rcs

KENTUCKY-AMERICANWATER COMPANY PROPOSED INVESTMENTPROJECT 02- O|

## LEESTOWN ROAD WATER LINE IMPROVEMENTS

| ITEM | RESPONSIBLEENTITY | TOTAL <br> ESTIMATED COST |  |
| :---: | :---: | :---: | :---: |
| Administration | KAWC | \$ | 10,000 |
| Design. Bidding, \& Easements | Engineer Consultant | \$ | 130,000 |
| Materials | KAWC | \$ | 185,000 |
| Construction | Contractor | \$ | 331,310 |
|  | Sub-Total | \$ | 656,310 |
| O\&C (+/-3\%) |  | \$ | 19,680 |
| Engineering Overhead ( $+1-2 \%$ ) |  | \$ | 13.540 |
|  | Sub-Total | \$ | 689,530 |
| AFUDC |  | \$ | 10,470 |
|  | Total | \$ | 700,000 |


| KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PROJECT 02-O1 LEESTOWN ROAD WATER LINE IMPROVEMENTS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DESCRIPTION OFACTVITY | ENTITY | 2002 |  |  |  |  |  |  |  |  |  |  |  |  | $\overline{\text { TOTAL }}$ |
|  |  |  |  |  |  |  | JuN |  | JUL | AUG |  |  | Nov |  |  |
| Administration | KAWC |  |  |  |  |  |  |  |  |  |  |  |  |  | \$ 10,000 |
| Design \& Bidding | Consulitant |  |  |  |  |  |  |  |  |  |  |  |  |  | \$130,000 |
| Materials | KAWC |  |  |  |  |  |  |  |  |  |  |  |  |  | 185.000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Construction | Contractor |  |  |  |  |  |  |  |  |  |  |  |  |  | \$331,310 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL |  |  |  |  | \$ 18,970 | \$ 47,420 | \$ 47,420 |  | 47,420 | \$47,420 | \$47,420 | \$ 94,930 | \$131,000 | \$174,310 | \$656,310 |
| O\&C(t+-3\%) |  |  |  |  | \$ 570 | \$ 1.420 |  |  |  | \$ 1,420 | \$ 1,420 |  | \$ 3,930 | \$ 5,230 | \$ 19,680 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Overhead ( + +-2\%) |  |  |  |  | \$ 390 | \$ 980 | \$ 980 |  | 980 | \$ 980 | \$ 980 | \$ 1,960 | \$ 2,700 | \$ 3,590 | \$ 13.540 |
| AFUDC |  |  |  |  | \$ 70 | S 180 | \$ 680 |  | 1,030 | \$ 1,240 | \$ 1.240 | \$ 1,420 | \$ 1.910 | \$ 2.700 | \$ 10,470 |
| CASHFORECAST |  |  |  |  | \$ 20,000 | \$ 50,000 | \$ 50,500 |  |  | \$51,060 | \$51,060 | \$101, 160 | \$139,540 | \$185,830 | \$700,000 |

## KENTUCKY-AMERICANWATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL <br> LEESTOWN ROAD WATER LINE IMPROVEMENTS

Determination of Revenue Requirement

| Authorized Rate of Return on Common Equity | $11.00 \%$ |
| :--- | ---: |
| Federal Income Tax Rate | $35.00 \%$ |
| Return on Common Equity before FIT | $16.92 \%$ |
| State Income Tax Rate | $8.25 \%$ |
| Required Rate of Return on CE for Project | $18.44 \%$ |
| Common Equity Ratio for Project | $40.00 \%$ |
| Weighted Cost of Common Equity before Tax | $\mathbf{7 . 3 8 \%}$ |


| Long Term Debt Ratio for Project | $60.00 \%$ |
| :--- | ---: |
| Estimated Cost Rate for New Debt | $8.00 \%$ |
| Weighted Cost of Debt | $4.80 \%$ |


| Total Pre-Tax Cost of Capital |  |  |
| :--- | :--- | :--- | :--- |
|  |  |  |
| Total Estimated Cost of Project |  |  |
| Investment by Others |  |  |
| Net Investment Financed by Company |  |  |
| New Common Equity | $\$$ | 280,000 |
| New Long Term Debt |  | 420,000 |

## Total Revenue Requirement

| Required Pre-Tax Operating Income |  |
| :--- | ---: |
| Depreciation Rate | $1.180 \%$ |
| Property Tax Rate | $0.7037 \%$ |
| Change in Operation \& Maint. Expense |  |
| Revenue from New Customers |  |
| Total Net Revenue Requirement |  |
| Revenue Tax Rate | $0.14537 \%$ |
| Total Revenue Requirement |  |

Latest 12 Months Revenue-06/30/2001
Required Price Increase

|  | Amount | Rate |
| :---: | ---: | ---: |
|  | 85,260 | $12.18 \%$ |
|  | 8,260 | $1.18 \%$ |
|  | 4,926 | $0.70 \%$ |
|  | 0 | $0.00 \%$ |
|  | 0 | $0.00 \%$ |
| $\$$ | 98,446 | $14.06 \%$ |
|  | 143 | $0.02 \%$ |
| $\$$ | 98,589 | $14.08 \%$ |

\$40,071,359
$0.25 \%$


## AMERICAN WATER - SOUTHEASTREGION

AW/CMF3.50
CAPITAL INVESTMENT MANAGEMENT COMMITTEE - 03/08/2004
ISSUE 1.1

Project 12020203 : Replace Traveling Screens at Kentucky River Station Intake
Project Manager : Shannyn Walker
Project Status : PROJECT CHANGE REQUEST
1.0 SUMMARY
1.1 Project Objectives

The Kentucky River Station traveling screens are critical to the effective operation of the intake system. As they remove leaves, branches, fish and other debris larger than $1 / 2^{\prime \prime}$, they are responsible for protecting the raw water intake pumps from damage from these elements. The original screens are no longer effective and with replacement of the two traveling screens, the KRS intake pump efficiencieswill be improved.
1.2 Changes Requested

It is requested that the approved Investment $\mathbf{F}$ ojer budget be increased from 5450,000 to $\$ 670,000$ for a total increased amount of $\$ 220,000$.
1.3 Reasons for Changes

Bids for the installation of the intake screens were received in February 2004, and the low bid was higher than anticipated in the original cost estimate. The upward adjustment to the project budget will account for the actual installation bid received.
1.4 Revised Cost and Program

- Increase project cost \$220,000.
- Project completion of August 2004 has not changed from the approved SCEP.
1.5 Project Issues and Risks

There is some risk associated with weather related events causing a delay in the project completion. Most of the screen work will take place in the spring and will be subject to high water levels.

### 2.0 INTRODUCTION

This project was approved as Investment Project in 2002 to replace (2) traveling water screens at the KRS intake due to their deterioration. As portions of the traveling screens have been in service since their original Installation in the late 1950's, $\$ 450,000$ was approved to completely replace these screens and provide improved flow through the KRS intake.
The project is about $25 \%$ complete with the (2) traveling screens being purchased and delivered to KRS. Bids have been received and Kentucky American is prepared to award a contract.

### 3.0 THE CHANGE PROPOSAL

3.1 The existing traveling screens at the Kentucky River Station intake are critical to the operation of the intake. With the plant operating at or above capacity with increasing frequency, there is a very limited window of opportunity for replacement. The current screens are forty years old and are at imminent risk of failure. The chains have been repaired constantly, and broke during 2003, allowing the screen to fall in the river. The original cost estimate was prepared in 1999, then the sluice gate project was delayed and the traveling screen project was also delayed. There has been no change in the scope of the project. The IP memo was written in 2001, and the estimate still appeared to be good. However, it is apparent based on the actual bid prices that further investigation of the estimate should have been made considering the delay.
3.2 If the expenditure increase is deferred, the existing traveling screens wouid remain in service and operate with deficiencies. The KRS intake pumps wouid experience greater stress as they continue to operate at their maximum capacity. Further, the entire intake is at risk for shut down if the screens should fail during peak demand periods when the pump well has to be clear to operate as needed.
3.3 If the cost increase is deferred, one screen could still be replaced within the authorized expenditures. However, based on alternative bid pricing, there would be a remobilization expense of $\$ 148,000$ and the intake would still be at risk. There are no other options than deferring the project for future work.
3.4 It is recommended that the price increase and additional expenditures be approved at this time. It is also recommendedthat the project be extended to August 2004, to allow the project to be completely carried out as previously planned.
3.5 The traveling screen chains have failed repeatedly, while the screens themselves are in imminent danger of failure.

| Purpose <br> Code | Description | $\%$ | Measure | Units | Target |
| :--- | :---: | :---: | :--- | :---: | :---: |
| NA-PP01 | Water - Poor <br> Physical <br> Performance | 100 |  |  |  |

4.0 POST PROJECT APPROVAL FINANCIALSTATEMENT
4.1 See attachment.
4.2 There is no anticipated significant variation in operational expenditure since the investment Project Memoranda was approved.
4.3 Since there were no other alternatives, an economic analysis was not performed.
5.0 EFFECT OF CHANGE ON PROJECT COMPLETION
5.1 With the delay of the sluice gate project due to budget constraints, the traveling screen project was directly affected and delayed. The traveling screens were originally to be completed by the end of 2003. Now that (4) new sluice gates are in service as of the end of 2002, the traveling screens can be isolated and replaced. Both traveling screens are scheduled to be in service and completed by June 2004.

### 6.0 ISSUES AND RISKS

6.1 There are no significantissues or risks to carry out this project as proposed. There is no anticipation of increase in operational expenditures.

### 7.0 RECOMMENDATION

7.1 It is recommended that the Capital investment Management Committee grant approval for the increased capital expenditures of $\$ 220.000$ for a total project cost of $\$ 670,000$ and an extension of project completion until June 2004.AMERICAN WATER - SOUTHEASTREGION
APPENDICES
A1 PCA Control Data Sheet
Associated form - CMF3.55 - appropriately signed.
A2 Detailed Estimate of Cost
A3 Economic Analysis
A4 Schedule / Forecast
Shannyn Walker March 8,2004
Version 1.0AW/CMF3.50
CAPITAL INVESTMENT MANAGEMENT COMMITTEE - 03/08/2004 ..... ISSUE 1.1

## AMERICAN WATER-SOUTHEASTREGION <br> AW/CMF3.50 <br> CAPITAL INVESTMENT MANAGEMENT COMMITTEE - 03/08/2004 <br> ISSUE 1.1

Revision History:
(When using the template, delete this table-it is for template revision purposes only)

| Version | Date | Summary of Changes |
| :--- | :--- | :--- |
| 1.0 | $03 / 08 / 04$ | First revision of approved Investment Proiect |
|  |  |  |
|  |  |  |
|  |  |  |

## KENTUCKY-AMERICAN WATER COMPANY

REVISED - PROPOSED INVESTMENT PLAN PROJECT 02-013
REPLACE TRAVELING SCREENS AT KENTUCKY RIVER STATION INTAKE

|  |  | ORIGINAL | REVISED |
| :---: | :---: | :---: | :---: |
| ITEM | RESPONSIBLE ENTITY | ESTIMATED COST | ESTIMATED COST |
|  |  |  |  |
| Administration | KAWC | \$ 4,500 | \$ 5,831 |
| Materials | KAWC | \$ 260,000 | \$ 225,414 |
| Construction | Contractor | \$ 150,000 | \$ 378,654 |
|  | Manufacturer Repllnspection | \$ | \$ 8,000 |
|  |  |  |  |
|  |  |  |  |
|  | Sub-Total | \$ 414,500 | \$ 617,899 |
|  |  |  |  |
| O\&C (+/-3\%) |  | \$ 12,460 | \$ 18,550 |
|  |  |  |  |
| Engineering nverhead (+/-2\%). |  | \$ 8,530 | \$ 12,730 |
|  |  |  |  |
|  | Sub-Total | \$ 435.490 | \$ 649.179 |
|  |  |  |  |
| AFUDC |  | \$ 11,330 | \$ 18,210 |
|  |  |  |  |
|  | Total | \$ 446,820 | \$ 667,389 |
|  |  |  |  |
|  | Estimate | \$ 450,000 | \$ 670,000 |


| KENTUCKY-AMERIGAN WATER COMPANY <br> REVISED-PROPOSEDINVESTMENT PLAN PROJECT 02-0 3 <br> REPLACE TRAVELING SCREENS AT KENTUCKY RIVER STATIONINTAKE |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DESCRIPTION OF ACTIVITY | $\begin{aligned} & \text { ENTTTY } \\ & \text { RESPONSIBLE } \end{aligned}$ | JAN | FEB | MAR | APR | MAY | ${ }^{20}$ | 104 jul | AUG | SEPT | OCT | Nov | DEC | TOTAL | TOTAL PROJECT |
| Adsinisistation | KAW | \$ 500 | S 500 | \$. 500 | \% $8 \cdot 1,331$ | s 1,000 | \%. 1,000 | \% 5.1 .000 |  |  |  |  |  | 5.831 |  |
| Materials | KAW |  | \$.225,414 |  |  |  |  |  |  |  |  |  |  | 225,414 | 5.414 |
| Cortract Labor | Contraciormanufacturer |  | ¢ 805 |  | 8. 40.000 | \$ 86.0000 | \$ 1150,000 | $s=50,000$ | 585,849 |  |  |  |  | 386,654 | 386.654 |
|  | Rep and lissectior |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL. |  | \$ 500 | \$226.719 | \$ 500 | \$ 81.331 | \$ 61,000 | \$151,000 | \$51,000 | \$85,849 |  |  |  |  | \$ 617,699 | 617,899 |
| 08C $(+1-3 \%)$ |  | \$ 20 |  |  |  |  |  |  | \$ 2.580 |  |  |  |  | 18,550 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Overhead ( + - $2 \%$ \% |  | ${ }^{+10}$ | 4.670 | S 10 | 850 | S 1.280 | S 3.110 | \$ 1,050 | \$ 1.770 |  |  |  |  | \$ 12.730 | 12,730 |
| AFUDC |  | s. | ¢ 870 | \$ 1.740 | S 1.900 | \$ 2,300 | \% 3,110 | \$ 3.880 | \% 4.410 | 5. |  |  |  | \$ 18,210 | ${ }^{8} \quad 18,210$ |
| CASH FORECAST |  | \$530 | 8239,059 | \$ 2,270 | S 45,321 | \$ 66,380 | \$161,760 | \$ 57,460 | \$94.609 |  |  |  |  |  | \$ 667,389 |

## KENTUCKY-AMERICAN WATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL

## REPLACE TRAVELING SCREENS AT KENTUCKY RIVER STATION INTAKE

 REVISED -03/08/04Determination of Revenue Requirement

| Authorized Rate of Return on Common Equity | $11.00 \%$ |
| :--- | :--- |

Federal Income Tax Rate $\quad 35.00 \%$
Return on Common Equity before FIT $\quad 16.92 \%$
State Income Tax Rate $\quad 8.25 \%$
Required Rate of Return on CE for Project $\quad 18.44 \%$
Common Equity Ratio for Project $\quad 40.00 \%$

Weighted Cost of Common Equity before Tax $\quad$| $7.38 \%$ |
| :--- |

Long Term Debt Ratio for Project 60.00\%
Estimated Cost Rate for New Debt $\quad 8.00 \%$
Weighted Cost of Debt
4.80\%

Total Pre-Tax Cost of Capital

| Total Estimated Cost of Project | $\$$ |
| :--- | ---: |
| Investment by Others | 667,389 |
|  | 0 |
| Net Investment Financed by Company | $\$ \quad 667,389$ |

New Common Equity \$ 266,956
New Long Term Debt 400,433

| Total Revenue Requirement |  | Amount |  |
| :---: | :---: | :---: | :---: |
| Required Pre-Tax Operating Income |  | \$ | 81,288 |
| Depreciation Rate | 3.140\% |  | 20,956 |
| Property Tax Rate | 0.7037\% |  | 4,696 |
| Change in Operation\& Maint. Expense |  |  | 0 |
| Revenue from New Customers |  |  | 0 |
| Total Net Revenue Requirement |  | \$ | 106,940 |
| Revenue Tax Rate | 0.14537\% |  | 156 |
| Total Revenue Requirement |  | \$ | 107,096 |
| Latest 12 Months Revenue - 06/30/2001 |  | \$ | 40,071,359 |
| Required Price Increase |  |  | 0.27\% |

## Kentucky-American Water Company

1025 Laurel Oak Road • PO. Sox 1770 • Voorhees, New Jersey 08043 • (609) 346-8200
August 24,2001
IP 02-63
Project No. 11206

## KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PLAN PROJECT 02- 03 <br> REPLACE TRAVELING SCREENS AT KENTUCKY RIVER STATION INTAKE

Reference: Strategic Business Plans for 1999 and 2000

## SUBJECT:

Deteriorating operation of the two (2) traveling screens at the Kentucky River Station Intake on the Kentucky River.

## RECOMMENDATION:

It is recommended that the traveling screens be completely replaced.

## ESTIMATED COST:

| Total Estimated Cost | $\$ 450,000$ |
| :--- | :--- |
| Proposed 2002 Expenditure | $\$ 200,000$ |
| Proposed 2003 Expenditure | $\$ 250,000$ |

## ADEQUACY:

The proposed investment project funds are adequate for replacement of both traveling screens.


Kentucky-American Water Company<br>Replace Traveling Screens at KRS Intake<br>Proposed 2001 IP 02-03<br>Project No. 11206<br>August 24,2001<br>Page 2

## DISCUSSION

Two (2) traveling screens are located at the intake structure on the Kentucky River. These traveling screens are used to protect the raw water intake pumps from leaves, branches, fish, and other debris larger then $1 / 2^{\prime \prime}$. The traveling screens are located behind a coarse bar rack and can be isolated by the closure of sluice gates. A separate IP 01-06 was approved to replace the sluice gates used to isolate the traveling screens. Upon completion of IP 01-06, KAWC will be in a position to start the replacement of the traveling screens.

Portions of the traveling screens have been in service since their original installation in the late 1950's. In the late 1960's minor modifications were made as the drive mechanism for the two screens were vertically raised above the 100 -year flood stage, and additional buckets were added to the screens, but no major changes were made to the original equipment. Since the late 1960 's, continual maintenance has been required to keep the screens operational, with major overhauls and maintenance expense occurring in 1985, 1988,1992,1997 and 2000.

Effective operation of the screens also will improve the reliability of the intake pumps and maximize intake capacity. The existing screens have reached the end of their useful life with many structural components having severely corroded. Another major overhaul is not expected to increase the useful life. The screens should be replaced to ensure reliability, maintain intake capacity, and avoid extraordinary maintenance expenses.

The total project cost estimate is considered accurate to within 10 percent.


NOR/rcs

# KENTUCKYK-AMERICAN WATER COMPANY PROPOSED INVESTMENT PLAN PROJECT O2-03 REPLACE TRAVELING SCREENS AT KENTUCKY RIVER STATION INTAKE 

Cost Estimate

## Total Estimated Cost

| Engineering | $\$ 13,000$ |
| :--- | ---: |
| Utility Plant Construction | 260,000 |
| Account \#306 -Intakes, Screens | 150,000 |
| Installation | $\$ 423,000$ |
|  | 12,490 <br> Omissions \& Contingencies <br>  <br> AFUDC |
|  | $\$ 435,490$ |
|  | 12,090 |
|  |  |
|  | $\$ 447,580$ |
|  | SAY |

hdb
01 kyip 02 - Replace Traveling Screens at KRS Intake doc


| KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PLAN PROJECT 02- 03 <br> LACE TRAVELING SCREENS AT KENTUCKY RIVER STATION INTAKE |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DESCRIPTION ofactivitr | ENTITY | JAN | FEB | MAR | APR | MAY | jun ${ }^{200}$ | JUL | Alls | SEPT | O\&1 | NOY | $08 \varepsilon$ | $\begin{aligned} & \text { TOTAL } \\ & 2003 \\ & \hline \end{aligned}$ | $\begin{gathered} \text { TOTAL } \\ \text { PROJECT } \end{gathered}$ |
| Adminisistation | KAWC |  |  |  |  |  |  |  |  |  |  |  |  | \$ 2.000 | 4.500 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Materials | KAWC |  |  |  |  |  |  |  |  |  |  |  |  | \$150,000 | \$260,000 |
| Construction | Contractor |  |  |  |  |  |  |  |  |  |  |  |  | \$ 75,000 | \$150,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL |  | \$ 500 | \$100,500 | \$88,000 | \$ 38,000 |  |  |  |  |  |  |  |  | \$227,000 | \$414,500 |
| O8C ( $+1 / 3 \%$ ) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | \$ 6,820 | \$ 12,460 |
| Overhead ( $+1-2 \%$ ) |  | \$ 10 | \$ 2,070 | \$ 1.810 | \$ 780 |  |  |  |  |  |  |  |  | 4,670 | 8,530 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| AFUDC |  | \$1,410 | \$ 1,790 | \$ 2,490 | \$ 2,970 |  |  |  |  |  |  |  |  | \$ 8,660 | \$ 11,330 |
| CASH FORECAST |  | \$1,940 | \$107,380 | \$94,940 | \$ 42.890 |  |  |  |  |  |  |  |  | \$247,150 | \$446,820 |

## KENTUCKY-AMERICAN WATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL REPLACE TRAVELING SCREENS AT KENTUCKY RIVER STATION INTAKE

Determination of Revenue Reauirement
Authorized Rate of Return on Common Equity $\quad 11.00 \%$
Federal Income Tax Rate
Return on Common Equity before FIT
State Income Tax Rate
Required Rate of Return on CE for Project
Common Equity Ratio for Project
Weighted Cost of Common Equity before Tax

| Long Term Debt Ratio for Project |  | 60.00\% |
| :---: | :---: | :---: |
| Estimated Cost Rate for New Debt |  | 8.00\% |
| Weighted Cost of Debt |  | 4.80\% |
| Total Pre-Tax Cost of Capital |  | 12.18\% |
| Total Estimated Cost of Project | \$ | 446,820 |
| Investment by Others |  | 0 |
| Net Investment Financed by Company | \$ | 446,820 |


| New Common Equity | $\$$ | 178,728 |
| :--- | :--- | :--- |
| New Long Term Debt |  | 268,092 |

Total Revenue Requirement
Required Pre-Tax Operating Income
Depreciation Rate
Property Tax Rate
Change in Operation \& Maint. Expense
Revenue from New Customers
Total Net Revenue Requirement
Revenue Tax Rate
Total Revenue Requirement
Latest 12 Months Revenue - 06/30/2001
Required Price Increase
$0.14537 \%$
$35.00 \%$
16.92\%
8.25\%
18.44\%
40.00\%
7.38\%
60.00\%
8.00\%
4.80\%
$12.18 \%$
\$ 446,820
\$ 446,820
268,092

|  | Amount |  | Rate |
| ---: | ---: | ---: | ---: |
|  | $\$$ | 54,423 | $12.18 \%$ |
| $3.140 \%$ |  | 14,030 | $3.14 \%$ |
| $0.7037 \%$ |  | 3,144 | $0.70 \%$ |
|  |  | $(25,000)$ | $-5.60 \%$ |
|  |  | 0 | $0.00 \%$ |
|  | $\$$ | 46,597 | $10.42 \%$ |
|  |  | 68 | $0.02 \%$ |
|  |  | 46,665 | $10.44 \%$ |

\$40,071,359
$\begin{array}{r}\text { \$ } 40,071,359 \\ \hline 0.12 \%\end{array}$

March 11,2002
IP 02-04
Project No. 10212

## KENTUCKY-AMERICAN WATER COMPANY

 PROPOSED INVESTMENT PLAN PROJECT 02- o4 WATER SUPPLY PROJECT DEVELOPMENTReference: Strategic Business Plans for 2002, Investment Project 92-12

## SUBJECT:

Kentucky-American's current treatment capacity deficit and source of supply deficit.

## RECOMMENDATION:

It is recommended that an investment project be established to facilitate water supply project plan development including the current Kentucky Public Service Commission proceeding and the Bluegrass Water Supply Consortium regional study efforts.

## ESTIMATED COST:

| Total Estimated Cost | $\$ 600,000$ |
| :--- | :--- |
| Prior Expenditures | $\$ 157,000$ |
| Proposed 2002 Expenditure | $\$ 243,000$ |
| Proposed 2003 Expenditure | $\$ 200,000$ |

## ADEQUACY:

The proposed investment project funds are estimated to be adequate for professional services toward obtaining regulatory and stakeholderconcurrenceof the project plan.


Kentucky-American Water Company
Water Supply Project Development
Proposed $2002 \mathbb{P}$ 02- 04
Project No. 10212
March 11,2002
Page 2

## DISCUSSION

Kentucky-American has been working to resolve its long-term water supply deficit situation. This includes a source of supply deficit and a treatment capacity deficit. Upgrades have been made to maximize the treatment plant capabilities in the short term, and there have been efforts to optimize the use of the Kentucky River including valve installation on upstream dams for releases and permit modifications. Potential long-term solutions have created local controversy, which has delayed ultimate resolution of either pmblem individually.

In 1992, Kentucky-American proceeded with design and construction of a pipeline that would supply finished water that was to be purchased from the Louisville Water Company. Kentucky-American included design costs in its forward-looking rate case that year. In 1993, the Kentucky Public Service Commission established a separate proceeding to investigate the source of supply and treated water deficits. Kentucky-Americanagreed to halt work on the project until the conclusion of that case. Case No. 93-434 was finally resolved in August 1997 with an Order that the Kentucky River alternative solutions were insufficient and that Kentucky-American had the responsibility to solve the problem for its customers. Thus Kentucky-American initiated detailed design work on the pipeline. In 1999, with the pipeline design about $60 \%$ complete, the Lexington-Fayette Urban County Government Council established a technical forum to review the issue. The LFUCG Council, which represents over $80 \%$ of Kentucky-American's customers, passed a resolution in December 1999 that indicated a preference for a Kentucky River solution, provided a number of items could be concluded within specific timeframes. Accordingly, Kentucky-American terminated work on the design of the pipeline. The resolution also encouraged Kentucky-American to pursue a regional solution.

In 2000, Kentucky-American filed a rate case and among other issues sought relief of the $\$ 6.2$ million that had been expended on pursuing the pipeline solution up to that point. In May 2001, the PSC provided a final order in that case that granted Kentucky-American relief for the majority of expenditures to date. The nature of the various expenditures determined the different rate treatment of the expenditures.

In February 2001, the PSC requested a status update from Kentucky-American on the 1997 Order in Case No. 93-434. Kentucky-Americanfiled a 20-page response, that detailed the situation, status of work since 1997, and issues that had to be resolved in order for a solution to be implemented, either on the Kentucky River or from another source. Kentucky-American indicated that it could not unilaterally implement a project to increase the supply of the Kentucky River, although the LFUCG had indicated a preference for a river solution and KentuckyAmerican acquiesced to that preference in its decision to stop work on the pipeline. The PSC established Case No 2001-117 to investigate the feasibility and advisability of the KentuckyAmerican proposed solution to its source of supply deficit.

Kentucky-American Water Company
Water Supply Project Development
Proposed 2002 IP 02-04
Project No. 10212
March 11,2002
Page 3

Additionally, Kentucky-American has been working with a group of other water utilities that have established themselves as the Bluegrass Water Supply Consortium. This group has received a grant from Congress and matched by the Kentucky Infrastructure Authority, to complete a regional water supply study. This study should provide an objective, detailed recommendation for a regional water supply including regional interconnections, source of supply, and treatment capacity.

The continued involvement in both of these efforts is critical to implementing a water supply solution in the near future. The continued effort to develop the project with stakeholders and parties responsible for implementation is part of the PSC proceeding and the work with the Consortium. The estimated expenditures are specifically for Company labor involved in the issue and professional service including legal services involved in the PSC investigation. These estimates are based on previous Commission proceedings. It is anticipated that the water supply project plan will be fully developed as a result of the Commission proceeding in conjunction with the Consortium efforts.

While the nature of these expenditures alone would normally not constitute an investment project, Kentucky-American believes that it is appropriate given the nature of this ongoing issue.


## NOR/rcs

## KENTUCKY-AMERICAN WATER COMPANY

PROPOSED INVESTMENT PLAN PROJECT 02-० 4
WATER SUPPLY PROJECT DEVELOPMENT

| ITEM | RESPONSIBLE ENTITY | TOTAL ESTIMATED COST |  |
| :---: | :---: | :---: | :---: |
| Priors |  | \$ | 157,000 |
| Project Development | KAWC | \$ | 128,170 |
| Legal Services | Consultant | \$ | 262,000 |
| Professional Services | Consultant | \$ | 31.500 |
|  |  |  |  |
|  |  |  |  |
|  | Sub-Total | \$ | 578.670 |
| O\&C ( $+1-3 \%$ ) |  | \$ | 12,660 |
|  |  |  | 12,660 |
| Engineering Overhead (+/-2\%) |  | \$ | 8,670 |
|  |  |  |  |
|  | Sub-Total | \$ | 600,000 |
|  |  |  |  |
| AFUDC |  | \$ | - |
|  |  |  |  |
|  | Total | \$ | 600,000 |



| KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PLAN PROJECT 02-O WATERSUPPLYPROJECTDEVELOPMENT |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DESCRIPTION | $\begin{array}{\|c\|} \hline \text { ENTITY } \\ \text { RESPONSIBLE } \\ \hline \end{array}$ | 2003 |  |  |  |  |  |  |  |  |  |  |  | $\begin{gathered} \text { TOTAL } \\ 2003 \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline \text { TOTALL } \\ \text { PROJECT } \\ \hline \end{array}$ |
| OFACTIVITY |  | JAN | FEB | MAR | - APR | MAY | IUN - | JUL | 1 AUG 1 SEPT |  | OCT 1 | NOV | 1 DEC |  |  |
| Project Development | KAWC |  |  | (3510\%002 | 8\% 120.0009 |  |  | 5.5 5.6008 |  | H5.5.50002 | 8, $20.60{ }^{2}$ |  | 退 | \$ 82,370 | \$ \$ 128,170 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Legal Services | Consultant |  |  |  | 85] |  |  |  |  |  |  |  |  | \$ 100,000 | \$262,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Professional Services | Consultant |  |  | 38 | (25.52009 |  |  |  |  |  |  |  |  | \$ 8,000 | \$ 31,500 |
| - |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL. |  | \$ 32,000 | \$ 27,000 | \$22.000 | \$ 22,000 | \$ 17,500 | \$ 15,000 | \$ 15,000 | \$12,000 | \$7,000 | \$7,000 | \$ 7,000 | \$ 6,870 | \$ 190,370 | \$ 578,670 |
| O\&C ( $+1-3 \%$ ) |  | \$ 960 | \$ 810 | \$ 660 | \$ 660 | \$ 530 | \$ 450 | \$ 450 | \$ 360 | \$ 210 | \$ 210 | \$ 210 | \$ 210 | \$ 5,720 | \$ 12,660 |
| Overhead ( $+1-2 \%$ ) |  | \$ 660 | \$ 560 | \$ 450 | \$ 450 | \$ 360 | \$ 310 | \$ 310 | \$ 250 | \$ 140 | \$ 140 | \$ 140 | \$ 140 | \$ 3.910 | \$ 8,670 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | 5 | ¢ | (15,160 | \$2,610 | 3,350 | 7,300 | 7,350 | \$ 7,220 | 0,000 | 600,000 |

[^0]
## KENTUCKY-AMERICAN WATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL <br> SPENDINGPROPOSAL <br> WATER SUPPLY PROJECTDEVELOPMENT

| Determination of Revenue Reauirement |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Authorized Rate of Return on Common Equity |  |  |  |  | 11.00\% |
| Federal Income Tax Rate |  |  |  |  | 35.00\% |
| Return on Common Equity before FIT |  |  |  |  | 16.92\% |
| State Income Tax Rate |  |  |  |  | 8.25\% |
| Required Rate of Return on CE for Project |  |  |  |  | 18.44\% |
| Common Equity Ratio for Project |  |  |  |  | 40.00\% |
| Weighted Cost of Common Equity before Tax |  |  |  |  | 7.38\% |
| Long Term Debt Ratio for Project |  |  |  |  | 60.00\% |
| Estimated Cost Rate for New Debt |  |  |  |  | 8.00\% |
| Weighted Cost of Debt |  |  |  |  | 4.80\% |
| Total Pre-Tax Cost of Capital |  |  |  |  | 12.18\% |
| Total Estimated Cost of Project |  |  |  | \$ | 600,000 |
| Investment by Others |  |  |  |  | 0 |
| Net Investment Financed by Company |  |  |  | \$ | 600,000 |
| New Common Equity \$ | \$ 240,000 |  |  |  |  |
| New Long Term Debt | 360,000 |  |  |  |  |
| Total Revenue Requirement |  |  | Amount |  | Bate |
| Required Pre-Tax Operating Income |  | \$ | 73,080 |  | 12.18\% |
| Depreciation Rate | 1.304\% |  | 7,824 |  | 1.30\% |
| Property Tax Rate | 0.7037\% |  | 4,222 |  | 0.70\% |
| Change in Operation \& Maint. Expense |  |  | 0 |  | 0.00\% |
| Revenue from New Customers |  |  | 0 |  | 0.00\% |
| Total Net Revenue Requirement |  | \$ | 85,126 |  | 14.18\% |
| Revenue Tax Rate | 0.14537\% |  | 124 |  | 0.02\% |
| Total Revenue Requirement |  | \$ | 85.250 |  | 14.20\% |
| Latest 12 Months Revenue - 12/31/2001 |  |  | 41,477,827 |  |  |
| Required Price Increase |  |  | 0.21\% |  |  |

[^1]
# Kentucky-American Water Company 

1025 Laurel Oak Road • P.O. Box 1770 - Voorhees, New Jersey $08043 \cdot(609) 346$ November 25,2002
Proposed P 03-0I

# KENTUCKY-AMERICAN WATER COMPANY PROPOSED DESIGN INVESTMENT PROJECT 03- OI TWO MILLION GALLON ELEVATED STORAGE FACILITY 

Reference: 1992 Least/Comprehensive Planning Study, Project B-13; 1993 and 2002 Storage Capacity Analyses, Strategic Business Plans 1997, 1998, 1999,2000

## SUBJECT

The need to equalize pressures, enhance fire flows and system reliability, and comply with Public Service Commission distribution storage requirements.

## RECOMMENDATION

A two (2) million gallon elevated storage tank should be designed and constructed in the eastern Fayette County section of the distribution system to provide fire flows and system reliability, and to equalize demands within the system.

## ESTIMATED COST

| Total Estimated Cost | $\$ 410,000$ |
| :--- | :--- |
| Proposed 2003 Expenditure | $\$ 150,000$ |
| Previous 2004 Expenditure | $\$ 260,000$ |

## ADEQUACY

The proposed investment project will be adequate for land acquisition, design, permitting and bidding for the proposed tank. Construction funds will be requested in a future revision to this Investment Project.


Kentucky-American Water Company<br>Proposed IP 03- ol<br>Two Million Gallon Elevated Storage Facility<br>November 25,2002<br>Page 2

## DISCUSSION

On August 15,2002, Kentucky-American Water Company pumped a record amount of water into its Lexington area distribution system. That day, a total of 71.82 MGD was pumped from its treatment plants. The previous maximum day of record was 66.37 MGD in 2000. More critical, however, was the power outage at the Kentucky River Station treatment plant on July 31, 2002 during peak demands. Pressure dropped throughout the main system in less than five minutes. Pressure remained low in some areas for 30 minutes while the tanks were activated and the Richmond Road Station pumping facilities were increased.

Kentucky-American Water Company has 12 storage facilities in its distribution system, with a total volume of 16.84 MG . These storage facilities are used to provide fire protection and equalize pressures during high demand periods. Ten of the tanks are pumped storage facilities.

Kentucky-American Water Company had previously received approval to operate with storage volume below one average day demand that is required by Kentucky regulations. As part of this deviation from the requirement, Kentucky-American Water Company proposed to construct five additional tanks between 1993 and 2005. The Public Service Commission had approved this schedule. Two of the tanks have been completed and are operational; two are designed and will be constructed in 2003-2004. The fifth was originally proposed as a 3.0 million gallon pumped storage facility in the 1993 Storage Analysis.

Kentucky-American Water Company has worked diligently to determine the appropriate level of storage that is cost effective and meets the objectives of health, safety and reliability for its customers. In previous analysis, it was determined that reliability would be provided through storage and standby power capabilities at the treatment plants. The recent power outage during peak demands demonstrated that immediate and short-term reliability cannot be met with the existing operational capabilities. Although existing storage and standby power capabilities were sufficient to provide reliability until the power was restored, it took a brief period of time to activate both. Because demands were so high during that brief period, system pressure was lost before the tanks and diesel capabilities could be implemented.

Kentucky-American has reviewed alternatives to improve the ability to implement those capabilities, which are being proposed in another Investment Project. However, it was determined that the most cost effective and reliable method to assure sustained system pressure during peak demands is with additional elevated storage. It is proposed that this elevated storage tank be built at this time instead of the additional pumped storage originally specified in the 1993 Storage Analysis. Kentucky-American in conjunction with System Engineering has recently updated the 1993 Storage Analysis and recommends that an additional 3.0 million gallon pumped storage facility be constructed between 2005 and 2010.

The proposed tank will be located along the Winchester Road corridor near Strader Drive, which is one of the highest points in the system. It will be centrally located, which will help sustain pressure throughout the system. Recent construction in the area has increased demands, which has resulted in increased low-pressure complaints in the area. By constructing the tank in this area, it

```
Kentucky-American Water Company
Proposed IP 03-
Two Million Gallon Elevated Storage Facility
November 25,2002
Page 2
```

will not only meet the system-wide reliability needs but also address the area low-pressure incidents that frequently occur. During the July 31 incident, this area experienced no water pressure for nearly thirty minutes.

Land acquisition costs are likely to be higher than usual because the proposed site is in an urban area. Additional SCADA logic will be required to ensure adequate operations of the tank for sustained water quality during moderate demand periods.

It is absolutely critical that design begin in 2003 so that adequate time is available for land acquisition and construction throughout 2004-2005. Kentucky-American is currently under an order from the Public Service Commission to complete the five proposed tanks by December 31, 2005. Following the July 31 incident, Commission staff have indicated that they are extremely concerned that Kentucky-American does not currently have adequate elevated storage for reliability purposes. It is recommended that this proposed elevated storage project be filed with the Public Service Commission before the end of 2002.

The estimated cost for the full project, including construction, is $\$ 3$ million. Construction funds will he requested in a future Investment Project memorandum. The cost estimate is based on recent similar tank design and construction and will vary based upon contractor prices and land acquisition costs. This estimate is projected to be accurate within plus 10 to minus 25 percent.


Linda C. Bridwell, P.E.
Director -Engineering


KENTUCKY-AMERICANWATER COMPANY
REVISED CAPITAL INVESTMENT PLAN PROJECT 03-ol
2 MG ELEVATED STORAGE TANK



| KENTUCKY-AMERICAN WATER COMPANY REVISED CAPITAL INVESTMENT PLAN PROJECT $0 \rightrightarrows$ O) 2 MG ELEVATED STORAGE TANK |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DESCRIPTIONOF ACTIVITY | ENTITY RESPONSIBLE | $\begin{gathered} 2003 \\ \text { Carryover } \end{gathered}$ | Jan |  |  |  |  |  |  |  |  |  |  |  | $\begin{gathered} \text { TOTAL } \\ 2004 \\ \hline \end{gathered}$ |
|  |  |  | Jan | Feb | Mar | Apr | May | Jun | Jut | Aug | Sep | Oct | Nov | Dec |  |
| Preliminary Design | KawC / Consultant | \$ 12,000 |  |  |  |  |  |  |  |  |  |  |  |  | \$ - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Final Design | Consultant | \$ 125,610 | \$. 25,000 | S575.000 | Pilif5i000: | \$315;000 | \$ 15,000 |  |  |  |  |  |  |  | \$ 85,000 |
| Const. Admin. / Inspection | KAWC / Consultant | \$ - |  |  |  |  |  |  |  |  | Tit 500 |  | \% 21000 | 1000 | \$ 3,500 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Materials | KAWC | \$ |  |  |  |  |  |  |  |  | 123:30000 | \% 30000 | 9-530000 | +30000 | \$ 120,000 |
| Construction | Contractor | s |  |  |  |  |  |  |  |  | $\cdots 20000$ | - 4.45000 | E 50000 | 5, 5 | \$ 165,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Land Acquisition | KAWC | \$ | 6, min | - 3 | +6, | \$5,50:000 | S 800000 | \$ 500000 | Sis 50.000 | \$580;000 |  |  |  |  | \$ 250,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL |  | \$ 137,610 | \$ 25,000 | \$ 15,000 | \$ 15,000 | \$ 65,000 | \$ 65,000 | \$ 50,000 | \$ 50,000 | \$ 50,000 | \$ 50,500 | \$ 76,000 | \$ 81,000 | \$81,000 | \$623,500 |
| O8C ( $+1 / 5 \%$ ) |  | \$ 6,880 | \$ 1,250 | \$ 750 | \$ 750 | \$ 3,250 | \$ 3,250 | \$ 2,500 | \$ 2,500 | \$ 2,500 | \$ 2,530 | \$ 3,800 | \$ 4,050 | \$ 4,050 | \$ 31,180 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Overhead ( $+1-2 \%$ ) |  | \$ 2,750 | \$ 500 | \$ 300 | \$ 300 | \$ 1,300 | \$ 1,300 | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 1.010 | \$ 1,520 | \$ 1.620 | \$ 1,620 | \$ 12,470 |
| AFUDC |  | \$ 2,760 | 940 | 1,060 | 1,160 | 1,410 | 1,810 | 2,170 | 2,490 | 2,800 | 3,110 | 3,510 | 4.000 | 4,500 | \$ 28,960 |
| CASH FORECAST |  | \% 150,000 | \$. 27,690 | \$ 17,110 | \$ 17,210 | \$ 70,960 | \$ 71,360 | \$ 55,670 | \$55,990 | \$ 56,300 | \$ 57,150 | S 84.830 | \$ 90,670 | \$91.170 | \$ 6966110 |


| KENTUCKY-AMERICAN WATER COMPANY REVISED CAPITAL INVESTMENT PLAN PROJECT 03- O 2 MG ELEVATED STORAGE TANK |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DESCRIPTION | RESPONSIBLE | $\begin{aligned} & \text { Prior } \\ & \text { cariover } \end{aligned}$ | Jan | Feb | Mar | $\overline{\text { Apr }}$ | $\overline{\text { May }}$ | Jun | $\frac{2005}{205}$ | Auo | Sep | Oct | Nov | Dec. | ${ }_{2005}^{\text {Total }}$ |
| Preilininary Desion | KAWC/ Consutitat | 12,000 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Final Design | Consultant | ${ }^{5}$ 210,610 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Const. Admin. I Inspecion | KAWC C Consullant | \% 3.500 | 58\%5.000 | S. 50000 | S50.5000 | 5\% 5 [5000 | S\% 8.5 .000 | S5\% 5,000 | \|S. 5 5.000 | 55:5.000 | \% 3.5 .5000 | 5\%\% 5.000 | 18.45,000 | S2750.060 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Materials | KAW | S 120.000 | \$ 8 B0,000 | \$5.30,000 | 30,00 | ssm 30,000. | Th700009 | S 51800000 | [5] 90.000 | 37303000 | 3 3 30.000 | 1/3.30,00 | 3 30, | \$7, 50.0 | \$ 360,000 |
| Constuction. | Contractor | \$ 165,000 | 5 50.000 | \$100,000 | M00.000 | 00.0008 | \$900.000 | 15.500 .000 | \$:300,000. | \% 5200,000 | $1{ }^{3} 7123.000$ | [13500,000 | \$-100,000 | \$-100:000 | 1473,000 |
| Land Acguisibion | ¢ KANCO | \$ 250,000 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL |  | \$ 766.110 | \$85,000 | \$135.000 | ${ }^{1135,000}$ | \$135,000 | ${ }^{5135,000}$ | \$135,000 | \$ 333.000 | \$ 233.000 | \$ 159.000 | \$ 135.000 | \$ 1355000 | 1350,60 | ${ }^{51,093,060}$ |
| O8C (1+.5\%) |  | \$ 38,060 | \$ 4,250 |  |  |  |  |  |  |  |  |  |  | 6.750 | \% 94,660 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 2,0 | 2.00 | 37,660 |
| AFUDC |  | ( 31,720 | 5,020 | ${ }^{5,7}$ | ${ }^{0.550}$ | 7.400 | B,240 | 9,090 | 10,560 | 12,340 | 3, 3.5 | 14,480 | 15.32 | 16,170 | 124,430 |
| CASH FORECAST |  | ${ }_{5} 846,10$ | \$95,970 | 5150,160 | \$151.000 | \$ 151,850 | \$ 152.680 | \$ 153.540 | \$ 369.000 | \$268,790 | \$ $18.182,620$ | S 158,930 | \$159,770 | \$ 160,680 | 2,150,000 |

## KENTUCKY-AMERICAN WATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL 2 MG ELEVATEDSTORAGE TANK

Determination of Revenue Requirement
Authorized Rate of Return on Common Equity 11.00\%
Federal Income Tax Rate 35.00\%
Return on Common Equity before FIT 16.92\%
State Income Tax Rate
Required Rate of Return on CE for Project
Common Equity Ratio for Project
Weighted Cost of Common Equity before Tax
Long Term Debt Ratio for Project
Estimated Cost Rate for New Debt
Weighted Cost of Debt
Total Pre-Tax Cost of Capital
Total Estimated Cost of Project
Investment by Others
Net Investment Financed by Company
8.25\%
18.44\%
40.00\%
7.38\%

New Common Equity $\quad \$ 1,200,000$
New Long Term Debt $1,800,000$

## Total Revenue Requirement

| Total Revenue Requirement |  | Amount |  | Rate |
| :--- | :--- | ---: | ---: | ---: |
| Required Pre-Tax Operating Income |  | $\$$ | 365,400 | $12.18 \%$ |
| Depreciation Rate | $1.180 \%$ |  | 35,400 | $1.18 \%$ |
| Property Tax Rate | $0.7037 \%$ |  | 21,111 | $0.70 \%$ |
| Change in Operation \& Maint. Expense |  |  | 0 | $0.00 \%$ |
| Revenue from New Customers |  |  | 0 | $0.00 \%$ |
| Total Net Revenue Requirement |  | $\$$ | 421,911 | $14.06 \%$ |
| Revenue Tax Rate | $0.14537 \%$ |  | 614 | $0.02 \%$ |
| Total Revenue Requirement |  | $\$$ | 422,525 | $14.08 \%$ |

Latest 12 Months Revenue - 09/30/2002
Required Price Increase

| $\$ \quad 42,262,154$ |
| ---: |

Project 12020303 : Reliability Improvements
Project Manager : Linda Bridwell
Project Status : PROJECT CHANGE REQUEST

### 1.0 SUMMARY

### 1.1 Project Objectives

On July 31,2002 Kentucky American experiences a power outage at its Kentucky River Station treatment facility during peak demands. This resulted in a system-wideboil water advisory. Afler extensive review. it was recommended that reiiability improvements be made which included electrical improvements at the KRS as well as replacing ball valves at some distribution system tanks, installation of a booster station to the Tates Creek tank, and SCADA reprogramming.
1.2 Changes Requested

It is requested that the approved capital expenditures be decreased from $\$ 1,320,000$ to $\$ 1,100,000$ as well as extend the project until March 2005. This chanãe will offset increased expenses on the Kentucky River Station traveling screens project.
1.3 Reasons for Changes

Kentucky Utilities indicated initially that improvements on their facilities would cost as much as $\$ 200.000$. That has now been revised based on further work with KU to $\$ 50,000$. Additionaily. the estimated cost of an additional transformer has been reduced by $\$ 70,000$ based on updated information from KU although bids have not been received.
1.4 Revised Cost and Proaram

|  | Approved Budget | Proposed Budget |
| :--- | ---: | ---: |
| 2003 Expenditure | $\$ 10,000$ | $\$ 10,000$ |
| 2004 Expenditure | $\$ 1,010,000$ | $\$ 790,000$ |
| 2005 Expenditure | $\$ 300,000$ | $\$ 300,000$ |
| Total | $\$ 1,320,000$ | $\$ 1,100,000$ |

- Reduce project cost and 2004 expendituresby $\$ 220,000$
- Project completion extended to March 2005.
1.5 Project Issues and Risks

The project has been delayed due to the need to first complete other investment projects that were first necessary including the Richmond Road Station improvements and the SCADA project. Continued risk lies in the delay, as the system is vulnerable to a power outage until the project is complete. Further. this reduction is proposed to accommodate necessary increased expenditures on the KRS traveling screen replacement project.

### 2.0 INTRODUCTION

This project was approved as Investment Project IP 03-03 in 2003 to improve reliability following a power outage. Although KAW personnel followed pre-established emergency procedures, the outage exposed a serious vulnerability of the system.
The project is about $5 \%$ complete with the ball valve replacements having been made and installation of sectionalizing breakers at the substation for completion before May 2004.

### 3.0 THE CHANGE PROPOSAL

3.1 The project has been delayed to date in working with Kentucky Utilities and awaiting completion of the SCADA project. After further discussions with KU, the scope of their efforts has been reduced and the breakers are now estimated at $\$ 50,000$. The transformer, which has also been delayed, is not as critical to reliability during peak periods, and can be delayed until after the summer peak periods. There is not a viable alternative to this proposed change, although there is some risk that an additional change may be necessary once bids are received.
3.2 The option of deferring the project is really not viable. The system is vuinerable to future power outages without these reliability improvements. An alternative to this project is a large diesel power installation at the KRS which was not cost effective. The Public Service Commission reviewed the power outage incident and agreed to these recommended changes.
3.3 The transformer addition could be deferred or eliminated; however, the treatment plant would then continue to be at risk for failure of the transformer.
3.4 It is recommended that the decrease expenditures be approved at this time to allow the KRS traveling screen project to go forward. It is also recommended that the project be extended to March 2005, to allow the project to be completely carried out as previously planned.
3.5 The project increases reliability of the treatment plant from poor physical condition and reliability.

| Purpose <br> Code | Description | $\%$ | Measure | Units | Target |
| :--- | :--- | ---: | :--- | :--- | :--- |
| RQ-EM01 | Water - Emergency Facilities <br> (protect against external event) | 100 |  |  |  |

4.0 POST PROJECT APPROVAL FINANCIAL STATEMENT
4.1 See attachment.
4.2 There is no anticipated significant variation in operational expenditure since the investment Project Memoranda was approved.
4.3 Since there were no other alternatives, an economic analysis was not performed.

### 5.0 EFFECT OF CHANGE ON PROJECT COMPLETION

5.1 The improvements to the electrical service should be completed by May 2004 so that the treatment plant reliability is increased prior to peak demand periods. The transformer cannot be worked on until the peak period demands have slackened and should start during the fall. Additionally, the Tates Creek tank booster should be completed in 2004. The entire project should be completed in early 2005.

### 6.0 ISSUES AND RISKS

6.1 The only significant risk is that the system is still vulnerable during power outage situations. While prior to 2002, an outage had not occurred for 19 years, it is critical that the project be completed.

### 7.0 RECOMMENDATION

7.1 It is recommended that the Capital Investment Management Committee grant approval for the decreased capital expenditures of $\$ 220,000$ for a total project cost of $\$ 1,100,000$ and an extension of project completion until March 2005.

## APPENDICES

## A1 PCA Control Data Sheet

Associated form - CMF3. 55 - appropriately signed.
A2 Detailed Estimate of Cost
A3 Economic Analysis
A4 Schedule / Forecast

Linda Bridwell
March 11, 2004
Version 1.0

## KENTUCKY AMERICAN WATER

## PROJECT 12020303

## RELIABILITY IMPROVEMENTS


KENTUCKY-AMERICANWATER COMPANY

## RELIABILTY IMPROVEMENTS

| DESCRIPTION OFACTVITY | RESTTTY | Priors | JAN | FEB |  |  |  |  | ${ }^{2004}$ |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Prow | Priors | JAN | FEB | MAR | APR | MAY | Jun | JUL | AUG | SEPT | OCT | Nov | DEC | 2004 |
| 4 kV Transformer at KRS | AW |  | 1s\% |  |  |  |  | \$250,000 | [8:500,000 | S\$50;000 | \$9560,000: | 359100:000 | ब3\%100:000 | S\% | \$ 481.800 |
| Sectionalizing Breaker | Kentucky Uutities |  | K85 | , | \% |  | 53\% ${ }^{\text {\% \% 0,000 }}$ | 18525,000 |  | 3, |  |  | 3xama | 䜌綡 | \$ 50.000 |
| Ball Valve limprovements | KAW | \$7,229 | \$ 17.142 | \% 6,233 | \% 19,400 |  |  |  |  | Watas |  | \% |  | (1) | ¢ 50.004 |
| Taies Creek Tank Reltofit | KAW/Cont. |  |  |  |  |  |  |  | \$ 10.000 | \$50,000 | \$40.000 | \$ 30,000 | \% 20,000 |  | \% 150,000 |
| Tank SCADA Programmin | KAWICOns. |  |  | \$10.000 |  |  |  |  |  |  |  |  |  |  | 10,000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL |  |  | \$ 17, 142 | \$16,233 | \% 19,400 |  | ¢ 10,000 | \$75,000 | S 75,000 | \$100,000 | \$90,000 | \$ 130,000 | \$ 120,000 | 5.81,800 | 734,575 |
| ORC $(+1.3 \%)$ |  |  |  |  | s 580 | \$ | \$ 300 | \$ 2.250 | \$ 2,250 | \$ 3.000 | \$ 2.700 | \$ 3,900 | \$ 3.600 | \$ 2,450 | \$ 21,030 |
| Overtiead ( + + $-2 \%$ ) |  |  |  |  | S 400 |  | \$ 210 | ¢ 1,550 | \$ 1.550 | \$ 2,060 | \$ 1.850 | s 2.680 | \$ 2.470 | \% 1,690 | S 14.460 |
| AFUDC |  |  |  |  | S 309 | ${ }^{5} 383$ | 423 | S 742 |  | s | ¢ 1.734 |  | ${ }^{5} \quad 2.234$ | \$ 2,324 | s 10.171 |
| CASH FORECAST |  |  | \$ 17, 142 | \%16,233 | S 20,689 | \$ 383 | / 10,933 | \$79,542 | \$78,800 | \$105,060 | \$96,284 | \$ 138,602 | [ 128.304 |  | \$ 780,236 |

[^2]

[^3]
## KENTUCKY AMERICAN WATER ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL <br> PENDING PROPOSAL <br> ABILITY IMPROVEMEN

| Determination of Revenue Requirement |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Authorized Rate of Return on Common Equity |  |  |  | 11.00\% |
| Federal Income Tax Rate |  |  |  | 35.00\% |
| Return on Common Equity before FIT |  |  |  | 16.92\% |
| State Income Tax Rate |  |  |  | 8.25\% |
| Required Rate of Return on CE for Project |  |  |  | 18.44\% |
| Common Equity Ratio for Project |  |  |  | 40.00\% |
| Weighted Cost of Common Equity before Tax |  |  |  | 7.38\% |
| Long Term Debt Ratio for Project |  |  |  | 60.00\% |
| Estimated Cost Rate for New Debt |  |  |  | 8.00\% |
| Weighted Cost of Debt |  |  |  | 4.80\% |
| Total Pre-Tax Cost of Capital |  |  |  | 12.18\% |
| Total Estimated Cost of Project |  |  |  | \$ 1,100,000 |
| Investment by Others |  |  |  | 0 |
| Net Investment Financed by Company |  |  |  | \$ 1.100.000 |
| New Common Equity | \$ 440,000 |  |  |  |
| New Long Term Debt | 660,000 |  |  |  |
| Total Revenue Requirement |  |  | Amount | Bate |
| Required Pre-Tax Operating Income |  | \$ | 133,980 | 12.18\% |
| DepreciationRate | 4.790\% |  | 52,690 | 4.79\% |
| Property Tax Rate | 0.7037\% |  | 7,741 | 0.70\% |
| Change in Operation \& Maint. Expense |  |  | 0 | 0.00\% |
| Revenue from New Customers |  |  | 0 | 0.00\% |
| Total Net Revenue Requirement |  | \$ | 194,411 | 17.67\% |
| Revenue Tax Rate | 0.14537\% |  | 283 | 0.03\% |
| Total Revenue Requirement |  | \$ | 194,694 | 17.70\% |
| Latest 12 Months Revenue - 09/30/2002 |  |  | 42,262,154 |  |
| Required Price Increase |  |  | 0.46\% |  |

[^4]
## Kentucky-American Water Company

# KENTUCKY-AMERICANWATER COMPANY PROPOSED INVESTMENT PLAN PROJECT 03-03 RELIABILITY IMPROVEMENTS 

Reference: 2003 Proposed Annual Business Plan, 2002 Storage Analysis, 2002 July 31 Incident Report.

## SUBJECT

The KAWC system is vulnerable to a disruption in water service if a power outage occurs during peak demands. A similar incident on July 31, 2002 resulted in customer outages and resultant Boil Water Advisory.

## RECOMMENDATION

It is recommended that electrical, valving, pumping and SCADA improvements to KAWC's existing facilities be made to prevent customer disruption should a power outage occur during peak demand periods.

## ESTIMATED COST

Total Estimated Cost
Proposed 2003 Expenditure
Proposed 2004 Expenditure

$$
\$ 1,320,000
$$

400,000
920,000

## ADEQUACY

The proposed investment project funds are estimated to be adequate for design and construction of the proposed improvements.


Kentucky-AmericanWater Company
Reliability Improvements
Proposed 2003 IP 03-03
November 15,2002
Page 2

## DISCUSSION

On July 31, 2002, Kentucky-American Water Company (KAWC) lost power to its Kentucky River Station (KRS) treatment facility. At the time, KAWC was experiencing peak demands. KRS was producing 48 million gallons per day (mgd) and the Richmond Road Station (RRS) treatment plant was producing 16 mgd . Since there is very little floating storage in the KAWC system, the system de-pressurized quickly once the main supply from KRS was interrupted. Within two minutes of the power failure, the RRS discharge pressure dropped from 77 psi to 25 psi . The pressure recorder at the highest point in the system dropped to 0 psi . Pressure dropped throughout the southern half of KAWC's distribution system.

Kentucky Utilities (KU) employees were immediately dispatched to the KRS. Within five minutes of the power failure, KAWC began switching to the diesel engine back-up of one of its high service pumps at the KRS. Pumps at two of the storage tanks were turned on by remote signal and the RRS began pumping at 25 mgd . The RRS raw water source was switched from the Kentucky River to Jacobson Reservoir. The operator remotely activated three other tanks as system pressures began to rise.

Within thirty minutes, the back-up diesel engine had been activated at the KRS and was operating its high service pump at 10 mgd , pumping from the KRS clearwell. No other diesel back up is available at the KRS for treatment or pumping. System pressure was back to normal within forty minutes. KAWC issued a precautionary boil water advisory for its entire system that lasted 22 hours. KAWC has experienced some public criticism for the lack of reliability, and the Kentucky Public Service Commission has asked for a review of KAWC's storage facilities in light of the incident. As a follow-up to that incident, KAWC has undertaken a review of its operating procedures and facilities to determine the most effective way to prevent customer disruption if a similar event occurred in the future.

KAWC personnel followed pre-established emergency procedures, which accounted for efficient and swift response. No significant changes to the operating procedures are recommended.

A review of the facilities has determined that some modifications should be made that will minimize or even eliminate the customer impact if a similar event occurred in the future. KAWC has a dual feed of 69 kV overhead transmission lines for electrical power at the KRS. Transmission comes from two different substations that are fed from two different generating facilities. The dual feeds come into a single substation, with parallel but separate feeds for three miles into the KRS substation. The switch between the dual feeds currently must be done manually, which requires nearly an hour even if KU personnel are dispatched immediately. Power then feeds through a single transformer at the plant and is split to dual feeds for each of two halves of the plant. The single transformer is 40 years old and has been identified as a vulnerable point because failure would cause a minimum of 48 hours of outage.

Kentucky-American Water Company<br>Reliability Improvements<br>Proposed 2003 IP 03-03<br>November 15,2002<br>Page 3

KAWC has twelve storage facilities and two treatment plant clearwell systems in the Lexington area that have a total volume of 20.71 million gallons. Eight of the tanks operate in what is considered the Main Service zone that covers all of Fayette, Woodford, and Jessamine Counties and the southern parts of Clark, Scott and Bourbon Counties. These tanks total 14.5 million gallons and all but one are pumped storage facilities. The Tates Creek Road tank with a volume of 0.5 million gallons is an elevated storage tank in this service zone. Because of the time of day, all but one of the pumped storage facilities were full and none were pumping into the distribution system in anticipation of peak hour demands later that evening. The Tates Creek tank is higher in elevation than the prevailing hydraulic grade line in the KAWC Main Service gradient. Therefore, it was less than one-third full when the power outage occurred, and it emptied within a few minutes.

In the event of an immediate loss of power during peak demand operations, the system must be able to stabilize pressures automatically for the first fifteen minutes to give operators time to respond. After reviewing all alternatives, it was determined that this can best be addressed by elevated storage, supported by automatic activation of the pumped storage tanks. The Tates Creek elevated tank, if full, could sustain system pressures with the loss of 48 mgd from KRS for ten to fifteen minutes.

The pumped storage facilities can currently be activated remotely but require the attention of the operators. With minimal SCADA programming, these facilities can be adjusted to activate automatically in a system-wide pressure loss. However, on July 31, the three largest pumped storage facilities could not be immediately activated because the ball valve system at those tanks would not open against the minimal system pressure. These ball valve systems can be modified to open on low system pressure at a moderate cost. The RRS production rate cannot be adjusted automatically without manually changing some chemical feed rates. This is being corrected during the ongoing DCS improvement project.

In a fature event, within the first five to fifteen minutes, the pumped storage facilities would be activated automatically, to further stabilize system pressures. The RRS operator would be able to increase the production rate of the plant in this time period to further stabilize system pressures. Electric feed to the KRS could be switched to the second transmission within the first five minutes by a remote switching mechanism. KRS plant personnel could begin restarting the plant.

In order to provide immediate reliability improvements that will be further enhanced by future elevated storage, the following improvements are included under this Investment Project. KAWC will have KU install sectionalizing breakers at its substation and necessary electrical equipment adjustments, thus minimizing the time to switch electrical power feeds. KAWC will install a redundant 4 kV transformer at the KRS substation and install the necessary electrical equipment adjustments. KAWC will upgrade the SCADA controls so that the pumped storage tanks will be automatically activated when a system pressure drop is detected. KAWC will

Kentucky-American Water Company
Reliability Improvements
Proposed 2003 IP 03- 03
November 15,2002
Page 4
retrofit the Tates Creek tank with a booster station and altitude valve to allow greater use of the Tates Creek tank during peak demand periods. KAWC will improve the ball valve systems on the three large tanks and the Newtown Booster station to allow operation when system pressure is lost. The construction of floating storage is recommended, and will be proposed as a future project in the Strategic Business Plan.

The total cost estimate is within $+/$ - ten percent based on equipment availability and can be completed over 2003-2004.


Linda C. Bridwell, PE
Director of Engineering


NOR/lcb

## KENTUCKY-AMERICAN WATER COMPANY ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL RELIABILITY IMPROVEMENTS




| KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PLAN PROJECT 03- 03 RELIABILITY IMPROVEMENTS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DESCRIPTION OF ACTIVITY | ENTITY | Priors | JAN | FEB | MAR | APR | MAY | $\frac{2003}{J U N}$ | JuL | AUG | SEPT | OCT | Nov | DEC | total <br> 2003 |
| 4 KV Transformer at KRS | KAWC |  | \% | 1, | 5xamm |  | - | \% |  | \% | , | 通: | Fex | - |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Seclionalling Breaker | Kentucky Uuilities |  |  | ${ }^{3} \times 3.0003$ | S 3 50,006 | \$3 3 36,600 |  |  |  |  | 5 | 3ne |  | 5 | \$190,000 |
| Bail valve Improvements | KAWC |  | \$2,000 | \$ 7,000 | \$ 1.000 | S3: | 2ᄌᄌxas | 323 | 438: |  | , | (4atis |  | CS | \$ 25.000 |
| Tates Creek Tank Retroft | Kawc/cont. |  | \$ 3,000 | \$11,150 | \$ 39,400 | \$ 42,700 | 43,410 | \$10,340 |  |  |  |  |  |  | \$ 150,000 |
| Tank SCADA programmin | KAWCICons. |  | \$ 2000 | \$ 2500 | \$ 4.200 | S 1.300 |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 3 4.200 | , 1,300 |  |  |  |  |  |  |  |  | \$ 10.000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL |  |  | § 10.000 | 923,650 | \$ 94.600 | 1994,000 | $)^{93,410}$ | \$ 59,340 |  | 9. | 15 | s |  |  | 9 375,000 |
| O8C $+1-3 \% 1$ |  |  | ${ }^{1} 300$ | \$ 710 | $15^{2} 880$ | \$ 8.820 | \$ 2.800 | 19 1,780 |  | 1 |  |  |  |  | ¢ 11.250 |
| Overhead $(+\underline{+}$-2\%) |  |  | $18 \quad 210$ | § 490 | \$ 1,950 | \$ 1,940 | s 1.920 | \$ 1.220 |  | s - | \% | /s |  |  | \% 7,738 |
| AFUDC |  |  |  | [s 163 | ${ }^{1} 6604$ | [ 8.1 .310 | \$ 2.017 | \$ $\$ 2.599$ | + | \% . | is - | 1s. | \$ - |  | \$5 6,729 |
| CASFFFORECAST |  |  | \$ $\$ 10.547$ | \$25,073 | \$ 89,994 | \$ 100,070 | \$ 100,147 | \$64,939 |  |  |  |  |  |  | \$ 400,709 |

[^5]
## KENTUCKY-AMERICAN WATER COMPANY

## PROPOSED INVESTMENT PLAN PROJECT 03- 03

RELIABILITY IMPROVEMENTS

| ITEM | RESPONSIBLEENTITY | TOTAL ESTIMATED COST |  |
| :---: | :---: | :---: | :---: |
| 4 kV Transformer at KRS | KAWC | \$ | 850,000 |
|  |  |  |  |
| Sectionalizing Breaker | Kentucky Utilities | \$ | 200,000 |
|  |  |  |  |
| Ball Valve Improvements | KAWC | \$ | 25,000 |
|  |  |  |  |
| Tates Creek Tank Retrofit | KAWC/Cont. | \$ | 150,000 |
|  |  |  |  |
| Tank SCADA programming | KAWC/Cons. | \$ | 10,000 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | Sub-Total | \$ | 1,235,000 |
|  |  |  |  |
| O\&C ( $+/-3 \%$ ) |  | \$ | 37,050 |
|  |  |  |  |
| Engineering Overhead ( $+1-2 \%$ ) |  | \$ | 25,460 |
|  |  |  |  |
|  | Sub-Total | \$ | 1,297,510 |
|  |  |  |  |
| AFUDC |  | \$ | 18,475 |
|  |  |  |  |
|  | Total | \$ | 1,315,985 |
|  |  | \$ | 1,320,000 |


| Project 04-02 | : | Kentucky DOT Relocations |
| :--- | :--- | :--- |
| Project Manager | : | Shannyn Walker |
| Project Status | $:$ | PROJECTNEED IDENTIFICATION |

### 1.0 SUMMARY

Water main'relocations that conflict with road construction undertaken by the Kentucky Department of Transportationand the Lexington-Fayette Urban County Government as recommended in the Kentucky AmericanWater 2003 Strategic Business Plan.
1.1 Project Objectives

It is estimatedthat approximately 5,000 feet of water lines will be in conflict with road reconstruction in 2004. It will be necessaryfor Kentucky Americanto relocate the pipe. The cost for relocating water mains that are located in private easement will be reimbursed by the appropriate agency.
1.2 Recommended Solution

It is recommendedthat approximately 5,000 of 24 -inch and 12 -inch be relocated as needed.
1.3 Cost and Program

- The request is for $\$ 400,000$ for engineering and construction 2004 .
- All work wiii be completed by December 2004.
1.4 Project Issues and Risks

The primary risk is damage to the water lines if they are not moved in a timely manner before road construction begins. There is a risk of potential customer service problems if the mains are out of service during high demand periods.
1.5 Changes Since Previous Approval

None
2.0 BACKGROUND
2.1.1 Kentucky AmericanWater is required to move water mains and other facilities when they conflict with roadway projects. In recent years, the KY DOT has increased its construction activity as a result of elevated federal funding, however, it appears that the level of construction will decrease through 2006.
It is estimated that there will be two major projects in 2004. One is the relocation of a 24 " main on Wellington Drive at Trinity for stormwater improvements. This work was originally scheduled in 2003 but was delayed because of other construction. Additionally, the relocation of 24 " main on Louden Avenue is expected in 2004. Finally, a smaller project to relocate a portion of main in Harrodsburg Road in conjunction with the final phase of that road construction is expected.
3.0 PROJECTJUSTIFICATION AND PRIORITIZATION
3.1

| Purpose <br> Code | Description | $\%$ | Measure | Units | Target |
| :--- | :--- | ---: | :--- | :--- | :--- |
| OR01 | Other regulations | 100 |  |  |  |
|  |  |  |  |  |  |

### 4.0 PROJECT OUTPUT AND BENEFITS

4.1 The intended outputs are relocated water lines in conjunction with road construction. in each case, the project is reviewed for the best alternative route to limit service disruption and minimize the necessary work. If reasonable, the water main is upsized during construction and service lines are replaced.

### 5.0 SCOPE AND OPTIONS

5.1 Relocated water lines are design with coordination of the road design engineers to minimize disruptions and construction. Where possible, the work is bid as a subcontract to the road construction. The improved coordination of this effort greatly reduces the overall project costs. Recent work for relocations have been as high as $\$ 100$ per foot of construction depending on traffic considerations and complexity of work. Because the work is required, there are no alternatives for the projects.

### 6.0 FINANCIAL STATEMENT

6.1 A detailed cost estimate of the projects is not yet available. It is estimated that work will generally cost $\$ 400,000$ but engineering to determine the scope and a firm cost estimate wiii be completed when the road design is complete.

| Component $\quad$ \$ million | Total | Year 0 | Year 1 |
| :--- | ---: | ---: | ---: |
| Development Costs | $\$ 0.0$ |  |  |
| Design \& ConstructionCost | $\$ 0.400$ |  | $\$ 0.400$ |
| Project Total | $\$ 0.400$ |  | $\$ 0.400$ |
| Advances \& Contributions | $\$ 0.100$ |  | $\$ 0.100$ |

6.2 There will be a no additional operating costs or additional operating revenues as a result of this work.

### 7.0 PROCUREMENT

7.1 The intention is to complete design in-house. Construction will be completed by a contractor.

### 8.0 PROGRAM

### 8.1 Schedule:

Project Need Identification (PNI)
Project Implementation Approval (PIA)

| Construction Start | $3 / 04$ |
| :--- | :--- |
| Substantial Completion | $12 / 04$ |
| Take Over | $12 / 04$ |
| Post Project Review | $12 / 04$ |

### 9.0 ISSUES AND RISKS

9.1 There is a risk of damage to the existing water lines if they are not moved timely. Additionally there is a risk for reduced customer service during construction.

### 10.0 RECOMMENDATION

10.1 The relocation of approximately 5,000 feet of water main in 2004 is recommended due to conflicts with road construction.

Linda Bridwell
December 18,2003
Version ( 1.0 for first submission)

| PROJECT REVIEW |  |  |
| :--- | :--- | :--- |
|  | Signature: | Date: |
| Asset Owner or nominated <br> Asset Manager I Capital <br> Program Manager |  |  |
| Operations Manager |  |  |
| Project Manager (Deliverer) |  |  |
| Finance Representative |  |  |
|  |  |  |
| RECOMMENDED FOR APPROVAL • PNI Only |  |  |
| VP Technical Services |  |  |
| Others (as nominated by VP   <br> Technical Services)   |  |  |

## APPENDICES

A1 PNI Control Data Sheet
None

# A2 Detailed Estimate of Cost <br> A detailed estimate of the design and constructioncost is not yet available. The request is $\$ 400,000$ for design and construction based on preliminary road constructionengineering. The scope and firm cost estimates to complete the proposed relocations will be complete based on final road design. 

A3 Economic Analysis
An "Economic Analysis of the Impact of Capital Spending Proposal" is attached to this form.
A4 Schedule IForecast
A bar chart is attachedto this form.

Revision History:

| Version | Date | Summary of Changes |
| :--- | :--- | :--- |
| $I .0$ | $12 / 18 / 03$ | Issue |
|  |  |  |
|  |  |  |
|  |  |  |

## KENTUCKY AMERICANWATER

## PROPOSED 2004 PROJECT NEED IDENTIFICATION

KYDOT MAIN RELOCATIONS

| ITEM | RESPONSIBLE ENTITY | TOTAL ESTIMATED COST |  |
| :---: | :---: | :---: | :---: |
| Design/Easement Acquisition | KAWC / Consultant | \$ | 10,000 |
| Construction \& Materials | Contractor | \$ | 343,950 |
| Inspection | KAWC | \$ | 8,000 |
|  | Sub-Total | \$ | 361,950 |
| O\&C (3\%) |  | \$ | 10,859 |
| Engineering Overhead (2\%) |  | \$ | 7,239 |
|  | Sub-Total | \$ | 380,048 |
| AFUDC |  | \$ | 20,280 |
|  | Total | \$ | 400,328 |


| KENTUCKY AMERICAN WATER <br> PROPOSED 2004 PROJECT NEED IDENTIFICATION KYDOT MAIN RELOCATIONS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { DESCRIPTION } \\ & \text { OF ACTIVITY } \end{aligned}$ | $\begin{gathered} \text { ENTITY } \\ \text { RESPONSIBLE } \end{gathered}$ | JaN | FEB | MAR | APR | MAY | JuN | ${ }^{2003}$ JUL | aug | SEPT | OCT | NOV | DEC | TOTAL <br> 2002 |
| Designo ${ }^{\text {assement } \text { Acouuisition }}$ | KAWC / Consultant |  |  |  |  |  |  |  |  |  |  |  |  | 10,000 |
| Constuction | Contractor |  |  |  |  |  |  |  |  |  |  |  |  | 313 |
| CompanyLabor | KAWC |  |  |  |  |  |  |  |  |  |  |  |  | 8.000 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL |  | \$ 47,500 | \$47,100 | \$ 46,750 | ¢ 46,500 | \$22,400 | \$22,200 | \$ 22,000 | \$ 21,500 | \$ 22,000 | ¢ 22,000 | \$ 21,000 | \$ 21,000 | 361,950 |
| O8C (3\%) |  | ${ }_{5}$ S 1,425 | \$ 1.413 | \$ 1,403 | \$ 1.395 | 8 672 | \$ 666 | \$ 660 | \$ 645 | \$ 660 | 8-660 | $8 \quad 630$ | 630 | \$ 10,859 |
| Overeaad ( $2 \%$ ) |  | \$ 950 | \$ 942 | \$ 8335 | \$ 930 | 5. 448 | 5444 | \$ 440 | S 430 | 440 | § 440 | ¢ 420 | \$ 420 | \$ 7.239 |
| AFUDC |  | 180 | 550 | 920 | 1,290 | 1.560 | 1.740 | 1,910 | 2.080 | 2.260 | 2,430 | 2,600 | 2,760 | \$ 20,280 |
| CASH FORECAST |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## KENTUCKY-AMERICAN WATER COMPANY <br> KYDOT MAIN RELOCATIONS <br> REVISED INVESTMENT PROJECT $02-1$ - 02

## Exhibit A <br> List of 2007 DOT Projects

| Project Name | Footage | Pipe Size | Estimated Cost |
| :--- | :---: | :---: | ---: |
| Wellington Way | 800 | $24^{\prime \prime}$ | $\$ 50,000$ |
| Louden Avenue | 4,000 | $24^{\prime \prime}, 6^{\prime \prime}$ | $\$ 325,000$ |
| Harrodsburg Road | 200 | $12^{\prime \prime}$ | $\$ 25,000$ |
|  |  |  | $\$ 400,000$ |
|  |  |  |  |
|  |  |  | $(\$ 75,000)$ |
| Subtotal |  |  | $(\$ 25,000)$ |
| Harrodsburg Road (2003\&2004) |  |  | $(\$ 100,000)$ |
| Louden Avenue |  |  | $\$ 300,000$ |

## KENTUCKY AMERICAN WATER ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL <br> KY DOT MAIN RELOCATIONS 04-02

Determination of Revenue Reauirement

| Authorized Rate of Return on Common Equity |
| :--- |
| Federal Income Tax Rate |
| Return on Common Equity before FIT |


| State Income Tax Rate |
| :--- |


| Required Rate of Return on CE for Project |
| :--- |
| Common Equity Ratio for Project |
| Weighted Cost of Common Equity before Tax |

Long Term Debt Ratio for Project
Estimated Cost Rate for New Debt
Weighted Cost of Debt

| Project 04-03 | : | Owen County Main Extensions |
| :--- | :--- | :--- |
| Project Manager | : | Richard Svindland |
| Project Status | : | PROJECT NEED IDENTIFICATION |

1.0 SUMMARY

Water main extensions in rural Owen County are recommended as part of the Strategic Business Plan for Kentucky American for 2003.
1.1 Project Objectives

The Owen County Fiscal Court has received grant funding for \$750,000 for water lines in rural Owen County. This project will use capital expenditures to leverage a portion of that grant to providenew service in currently unserved areas. The County Judge-Executiveis committed to providing water service throughout the county and is supportive of a partnership with Kentucky American Water to complete that goal.

### 1.2 Recommended Solution

Approximately 40,000 feet of 8-inch, 6-inch and 4-inch mains are recommended to be installed in Owen County. The exact location of the mains will be determined by the priorities set by the Owen County Fiscal Court.

### 1.3 Cost and Program

- The initial request is for $\$ 60,000$ for preliminary engineering in 2004 to define the scope and develop a firm cost estimate of the project.
- The project will be completed in December 2007, with construction in 2005, 2006 and 2007.


### 1.4 Project Issues and Risks

The risks are higher rates for the Owen County residents and potential water quality concerns by extending small mains with only few residents per mile. The project will grow the customer base and continue to meet the State's goal of providing water service to all residents by 2020.
1.5 Changes Since Previous Approval

None

### 2.0 BACKGROUND

2.1 In 2001, Kentucky American Water acquired the Tri-Village Water District's assets in rural Owen County. The County Judge Executive was successful at that time in receiving grants for water line extensions that required 100\% matching. Kentucky American agreed to provide funds for the matching as part of the acquisition of the Tri-Village Water District. The project covered the extension of 240,000 feet of main and the construction of a tank. The project was also expected to be part of the next rate case to verify the appropriateness of the level of expenditures.
2.2 The Owen County Judge Executive has now successfully received additional grant funding from the Kentucky Infrastructure Authority for water line extensions at a level of \$750,000. The Judge Executive has asked Kentucky American to continue to serve as a partner on the extensions. The feasibility of the project will likely need a rate impact review by the Kentucky Public Service Commission.

CAPITAL INVESTMENT MANAGEMENT COMMITTEE - Dec 2003

## $3.0 \quad$ PROJECT JUSTIFICATION AND PRIORITIZATION

3.1

| Purpose <br> Code | Description | $\%$ | Measure | Units | Target |
| :--- | :--- | :---: | :--- | :--- | :---: |
| LC0才 | Local capacity <br> growth | 100 |  |  |  |
|  |  |  |  |  |  |

### 4.0 PROJECT OUTPUT AND BENEFITS

4.1 The intended outputs are additional water lines to serve new customer that currently do not have community water service. The specific water line extensions will continue to be prioritized on the highest density of population with the input of the Owen County Fiscal Court. This project will be a continuation of efforts to meet the Kentucky Governor' goal to provide treated, potable water to all Kentuckians by 2020.

### 5.0 SCOPE AND OPTIONS

5.1 Additional water line extensions are recommended to grow the water service system in Owen County. A prioritization of areas to be served needs to be completed, with design of water lines and easements following. Because of the rural nature of the area to be served, construction has been very cost effective, averaging $\$ 15$ per foot including engineering work. Additional booster stations may also be required depending on the location of the lines.
5.2 Preliminary engineering is recommended to determine the most cost effective installation of water lines and highest density of customers. Preliminary engineering will also include route selection and easement acquisition. There are no alternatives available to deliver the output.

### 6.0 FINANCIAL STATEMENT

6.1 A detailed estimate of the design and construction cost is it z ai. The il ir us is for $\$ 60,000 \mathrm{fi}$ preliminary engineering to define the scope and develop a firm cost estimate to complete the project.

| Component $\quad$ \$million | Total | Year 0 | Year 1 | Year2 | Year 3 | Year 4 |
| :--- | ---: | ---: | ---: | ---: | ---: | :---: |
| Development Costs | $\$ 0.06$ |  | $\$ 0.06$ | $\$ 0.040$ |  |  |
| Design \& Construction Cost | $\$ 1.140$ |  |  | $\$ 0.500$ | $\$ 0.370$ | $\$ 0.230$ |
| Project Total | $\$ 1.200$ |  | $\$ 0.06$ | $\$ 0.540$ | $\$ 0.370$ | $\$ 0.230$ |
| Advances \& Contributions |  |  |  | $\$ 0.300$ | $\$ 0.200$ |  |

6.2 There will be a slight increase in operating costs for additional new services to have meters read and additional purchased water costs. There will also be an increase in operating revenues from new customers. For the sake of the economic analysis it is estimated that there will be 100 new customers. This is based on the average customer density from the previous project. Work will only be completed that will fit within the proposed capital expenditures.

### 7.0 PROCUREMENT

The intention is to prioritize the main extensions and determine routes in-house. Engineering for
detailed route work and easement acquisition will be done by a consultant. Construction will be
completed by a contractor.

### 8.0 PROGRAM

8.1 Schedule:

Project Need Identification (PNI) 12/03
Project Implementation Approval (PIA) 12/04
Construction Start 3/05
Substantial Completion 12107
Take Over 12107
Post Project Review 3/08

### 9.0 ISSUES AND RISKS

9.1 The risks are for higher rates for existing Owen County customers to help pay for the cost of the water line extensions and because of the higher operating costs for meter reading and maintenance. An additional risk is for potential low chlorine residuals resulting from extending small mains with low customer density.
9.2 It is anticipated that the Kentucky Public Service Commission will review the appropriateness of potential rate increases in the next rate case or through a Certificate of Convenience and Necessity process prior to initiating the project. The current water supplier is reviewing the potential to convert from free chlorine to chloramines which will reduce the risk of low chlorine residuals. This review is occurring because of necessary compliance with disinfection by-product regulations. If a conversion to chloramines is not made, there may be a need to include booster chlorination in the project or install automatic flushing devices.
10.0 RECOMMENDATION
10.1 Rural water main extensions in Owen County are recommended. The initial request is for $\$ 60.000$ for preliminary engineering to define the scope and develop a firm cost estimate to complete the project. The initial total project cost estimate is $\$ 1,200,000$ with $\$ 500,000$ of that coming as a contribution of grant money by Owen County.

Linda Bridwell
December 18,2003
Version ( 1.0 for first submission)

| PROJECT REVIEW |  |  |  |
| :--- | :--- | :--- | :---: |
|  | Signature: | Date: |  |
| Asset Owner or nominated <br> Asset Manager I Capital <br> Program Manager |  |  |  |
| Operations Manager |  |  |  |
| Project Manager (Deliverer) |  |  |  |
| Finance Representative |  |  |  |
|  |  |  |  |
| RECOMMENDEDFOR APPROVAL | PNI Only |  |  |
| VP Technical Services |  |  |  |
| Others (as nominated by VP <br> Technical Services) |  |  |  |
|  |  |  |  |

## APPENDICES

A1 PNI Control Data Sheet
None
A2 Detailed Estimate of Cost
A detailed estimate of the design and constructioncost is not yet available. The initial request is $\$ 60,000$ for preliminary engineering to define the scope and develop a firm cost estimate to complete the project.

A3 Economic Analysis
An'Economic Analysis of the Impact of Capital Spending Proposal" is attached to this form.
A4 Schedule IForecast
A bar chart is attached to this form.AWICMF3.30
CAPITAL INVESTMENT MANAGEMENT COMMITTEE - Dec 2003

## Revision History:

| Version | Date | Summary of Changes |
| :--- | :--- | :--- |
| 1.0 | 12118103 | Issue |
|  |  |  |
|  |  |  |
|  |  |  |

## KENTUCKY AMERICAN WATER

## PROJECT NEED IDENTIFICATION 04-03

Owen County Main Extensions
TRI-VILLAGE WATER DISTRICT - OWEN COUNTY

| ITEM | RESPONSIBLE ENTITY |  | ORIGINAL TED COST |
| :---: | :---: | :---: | :---: |
| Administration | KAWC | \$ | 25,000 |
| Design | Consultant | \$ | 90,000 |
| Materials | KAWC | \$ | 200,000 |
| Inspection | KAWC | \$ | 50,000 |
| Construction | Contractor | \$ | 640,000 |
|  | Sub-Total | \$ | 1,005,000 |
| O\&C |  | \$ | 50,250 |
| Engineering Overhead |  | \$ | 50.250 |
|  | Sub-Total | \$ | 1,105,500 |
| AFUDC |  | \$ | 94,500 |
|  | Total | \$ | 1,200,000 |
|  | Estimatel \$ |  | 1.200,000 |


| KENTUCKY AMERICAN WATER PROJECT NEED IDENTIFICATION O+O3 Owen County Main Extensions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DESCRIPTION OFACTVITY | $\begin{gathered} \text { ENTITY } \\ \text { RESPONSIBLE } \end{gathered}$ | 2004 |  |  |  |  |  |  |  |  |  |  |  | $\begin{gathered} \text { TOTAL } \\ \hline 2004 \\ \hline \end{gathered}$ |
|  |  | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |  |
| Administralion. | KAWC |  |  |  |  |  |  |  |  |  |  |  |  | \$ 6.000 |
| Design | Consultant |  |  |  |  |  |  |  |  |  |  |  |  | \$ 52,500 |
| Materials | kAWC |  |  |  |  |  |  |  |  |  |  | \$ . | \$ | \$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Inspection | kAWC |  |  |  |  |  |  |  |  |  |  | \$ | S. | \$ |
| Construction | Contractor |  |  |  |  |  |  |  |  |  |  | \$ | \$. | \$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | . |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUB-TOTAL |  |  |  |  |  |  |  |  |  |  | \$ 19,500 | \$ 19,500 | \$ 19,500 | \$ 58,500 |
| 08 C |  |  |  |  |  |  |  |  |  |  | \$ 150 | \$ 150 | \$ 150 | \$ 450 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Overhead |  |  |  |  |  |  |  |  |  |  | \$ 150 | \$ 150 | \$ 150 | \$ 450 |
| AFUDC |  |  |  |  |  |  |  |  |  |  | 200 | 200 | 200 | 8600 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CASH FORECAST |  |  |  |  |  |  |  |  |  |  | \$ 20,000 | \$ 20,000 | \$ 20,000 | \$ 60,000 |

## KENTUCKY AMERICAN WATER ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL SPENDING PROPOSAL <br> Owen County Main Extensions 12/16/03


1

|  |  |
| :---: | :---: |
|  | - |
|  |  |
|  | -000\%oplli |
|  |  |
|  |  |
|  |  |
|  | ${ }^{\circ} \mathrm{BHE}$ |
|  | - ${ }^{\text {Onfing }}$ |
|  | 'R Phatio |
|  | -约 |
|  | - |
|  |  |
|  |  |
|  |  |
| - \% |  |
|  | Hithi ${ }^{\circ} \mathrm{m}^{\circ} \mathrm{O}$ |
|  | Bminio ${ }^{\circ}$ |
|  | Ull |
|  | \% ${ }^{\circ}$ Il ${ }^{\circ} \mathrm{THI}$ |
|  | \%EK6 |
|  |  |
|  |  |
| \% |  |
| 4 |  |

Strategic captal expenditure plan



[^0]:    

[^1]:    H:ZEngineering\IPs102-XXX Water Supply Project DevelopmentWater Supply Project Development-detail cost Econ Analysis
    312712002

[^2]:    H:IEngineeringupsi02-XXX Water Supply Project Developmento40311 SE KY 12020303 PCR Appendices
    2004

[^3]:    H:IEngineeringllPs $102-$-XXX Water Supply Project Developmentio40311 SE KY 12020303 PCR Appendices

[^4]:    H:IEngineering\IPsl02-XXX Water Supply Project DevelopmentiO40311 SE KY 12020303 PCR Appendices Econ Analysis
    5/1812004

[^5]:    

