EQUATION ESTIMATES

2SLS USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 1: RESIDENTIAL SALES

RSSA = a0 + a1*RAPINST + a2*RPICPS + a3*RCDDINST + a4*RHDDINST

FINAL VALUE OF RHO	=	-0.286202
STANDARD ERROR OF RHO	=	0.139763
T-STATISTIC FOR RHO	=	-2.04776
SUM OF SQUARED RESIDUALS	=	0.202962E+12
STANDARD ERROR OF THE REGRESSION	=	69515.7
MEAN OF DEPENDENT VARIABLE	=	0.111165E+07
STANDARD DEVIATION	=	368121.
R^2	=	0.967441
ADJUSTED R^2	=	0.964340
DURBIN-WATSON STATISTIC	=	2.2289
LOG OF LIKELIHOOD FUNCTION	=	-588.064
NUMBER OF OBSERVATIONS	=	47

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.55679E+06	68433.	-8.1362
RAPINST	-27.489	10.839	-2.5362
RPICPS	0.95030E+06	0.11893E+06	7.9905
RCDDINST	0.16308E-02	0.10871E-03	15.001
RHDDINST	0.90884E-03	0.16264E-03	5.5882

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 2: COMMERCIAL SALES

CSSA = b0 + b1*CAPINST + b2*NAGCPS + b3*CCDDINST + b4*CHDDINST

FINAL VALUE OF RHO	=	0.217845
STANDARD ERROR OF RHO	=	0.157544
T-STATISTIC FOR RHO	=	1.38276
SUM OF SQUARED RESIDUALS	=	0.247123E+11
STANDARD ERROR OF THE REGRESSION	=	24855.7
MEAN OF DEPENDENT VARIABLE	=	350237.
STANDARD DEVIATION	=	111892.
R^2	=	0.955181
ADJUSTED R^2	=	0.950699
DURBIN-WATSON STATISTIC	=	1.9086
LOG OF LIKELIHOOD FUNCTION	=	-516.664
NUMBER OF OBSERVATIONS	=	45

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.61554E+06	55628.	-11.065
CAPINST	-37.166	20.034	-1.8552
NAGCPS	2404.0	221.75	10.841
CCDDINST	0.30452E-02	0.26098E-03	11.668
CHDDINST	0.11561E-02	0.38684E-03	2.9886

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 3: RESIDENTIAL AVERAGE PRICE

RAPSA = c0 + c1*AQTSA + c2*AFCSA

FINAL VALUE OF RHO	=	0.585937

STANDARD ERROR OF RHO	=	0.118203
T-STATISTIC FOR RHO	=	4.95706
SUM OF SQUARED RESIDUALS	=	0.612259E-03
STANDARD ERROR OF THE REGRESSION	=	0.373028E-02
MEAN OF DEPENDENT VARIABLE	=	0.259493E-01
STANDARD DEVIATION	=	0.555964E-02
R^2	=	0.569728
ADJUSTED R^2	=	0.550170
DURBIN-WATSON STATISTIC	=	2.2230
LOG OF LIKELIHOOD FUNCTION	=	197.650
NUMBER OF OBSERVATIONS	=	47

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.13211E-01	0.69142E-02	1.9108
AQTSA	0.62776	0.16297	3.8521
AFCSA	0.66837	0.11539	5.7921

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 4: COMMERCIAL AVERAGE PRICE

CAPSA = d0 + d1*AQTSA + d2*AFCSA

FINAL VALUE OF RHO	=	0.662468
STANDARD ERROR OF RHO	=	0.108122
T-STATISTIC FOR RHO	=	6.12704
SUM OF SQUARED RESIDUALS	=	0.348191E-03
STANDARD ERROR OF THE REGRESSION	=	0.281308E-02
MEAN OF DEPENDENT VARIABLE	=	0.204740E-01
STANDARD DEVIATION	=	0.453872E-02
R^2	=	0.632581
ADJUSTED R^2	=	0.615880

DURBIN-WATSON STATISTIC	=	1.9665
LOG OF LIKELIHOOD FUNCTION	=	210.913
NUMBER OF OBSERVATIONS	=	47

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.16412E-01	0.62256E-02	2.6362
AQTSA	0.72762	0.13132	5.5407
AFCSA	0.52197	0.10636	4.9075

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 5: INDUSTRIAL AVERAGE PRICE

IAPSA = e0 + e1*ATQTSA + E2*AFCSA

FINAL VALUE OF RHO	=	0.479973
STANDARD ERROR OF RHO	=	0.127965
T-STATISTIC FOR RHO	=	3.75082
SUM OF SQUARED RESIDUALS	=	0.476029E-03
STANDARD ERROR OF THE REGRESSION	=	0.328920E-02
MEAN OF DEPENDENT VARIABLE	=	0.247661E-01
STANDARD DEVIATION	=	0.617834E-02
R^2	=	0.728899
ADJUSTED R^2	=	0.716576
DURBIN-WATSON STATISTIC	=	2.1668
LOG OF LIKELIHOOD FUNCTION	=	203.564
NUMBER OF OBSERVATIONS	=	47

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.17891E-02	0.49311E-02	-0.36283
AQTSA	0.79041	0.12612	6.2670
AFCSA	0.59659	0.81064E-01	7.3595

2SLS ESTIMATION

EQUATION 6: TOTAL FUEL EXPENSE & PURCHASED POWER COST

QTSA = f0 + f1*TVCSA

SUM OF SQUARED RESIDUALS	=	0.157908E+10
STANDARD ERROR OF THE REGRESSION	=	5859.00
MEAN OF DEPENDENT VARIABLE	=	52201.0
STANDARD DEVIATION	=	20086.1
R^2	=	0.917784
ADJUSTED R^2	=	0.915997
DURBIN-WATSON STATISTIC	=	2.1183
F-STATISTIC	=	506.383
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	1386.7	2440.7	0.56817
TVCSA	0.97310	0.43845E-01	22.194

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MODEL: SPS

SYMBOL DECLARATIONS

ENDOGENOUS:

AFCSPS	-	AVERAGE FIXED COSTS:000'S OF $ PER MWH
AQTSPS	-	AVERAGE FUEL EXPENSES AND PURCHASED POWER COSTS: 000'S OF $ PER MWH
CAPINSN	-	INSTRUMENT FOR CAPSPSN
CAPINST	-	INSTRUMENT FOR CAPSPST
CAPSPSN	-	COMMERCIAL AVERAGE PRICE (NON-TEXAS):000'S OF $ PER MWH
CAPSPST	-	COMMERCIAL AVERAGE PRICE (TEXAS):000'S OF $ PER MWH
CSSPSN	-	COMMERCIAL SALES (NON-TEXAS):MWH
CSSPST	-	COMMERCIAL SALES (TEXAS):MWH
GENRSPS	-	GENERATION REQUIREMENTS:MWH
GRNG	-	GENERATION REQUIREMENTS FROM NATURAL GAS PLANT:MWH
GRPLNTA	-	GENERATION REQUIREMENT FROM PLANT A:MWH
GRPLNTB	-	GENERATION REQUIREMENT FROM PLANT B:MWH
GRPLNTC	-	GENERATION REQUIREMENT FROM PLANT C:MWH
GRPLNTD	-	GENERATION REQUIREMENT FROM PLANT D:MWH
GRPPNU	-	GENERATION REQUIREMENTS FROM PURCHASED POWER FROM NON-UTILITY SOURCES:MWH
IAPINSN	-	INSTRUMENT FOR IAPSPSN
IAPINST	-	INSTRUMENT FOR IAPSPST
IAPSPSN	-	INDUSTRIAL AVERAGE PRICE (NON-TEXAS):000'S OF $ PER MWH
IAPSPST	-	INDUSTRIAL AVERAGE PRICE (TEXAS):000'S OF $ PER MWH
ISSPSN	-	INDUSTRIAL SALES (NON-TEXAS):MWH
ISSPSS	-	INDUSTRIAL SALES (TOTAL):MWH
ISSPST	-	INDUSTRIAL SALES (TEXAS):MWH
MATSPSS	-	FOUR-QUARTER MOVING AVERAGE OF TOTAL SALES:MWH
PLNTAC	-	CONDITIONAL VARIABLE
PLNTBC	-	CONDITIONAL VARIABLE
PLNTCC	-	CONDITIONAL VARIABLE

PLNTDC	-	CONDITIONAL VARIABLE
PPNUC	-	CONDITIONAL VARIABLE
QTSPS	-	TOTAL FUEL EXPENSE AND PURCHASED POWER COST ESTIMATE:000'S OF $
RAPINSN	-	INSTRUMENT FOR RAPSPSN
RAPINST	-	INSTRUMENT FOR RAPSPST
RAPSPSN	-	RESIDENTIAL AVERAGE PRICE (NON-TEXAS):000'S OF $ PER MWH
RAPSPST	-	RESIDENTIAL AVERAGE PRICE (TEXAS):000'S OF $ PER MWH
RSSPSN	-	RESIDENTIAL SALES (NON-TEXAS):MWH
RSSPST	-	RESIDENTIAL SALES (TEXAS):MWH
TSSPS	-	TOTAL SYSTEM SALES:MWH
TSSPSN	-	TOTAL NON-TEXAS SYSTEM SALES:MWH
TSSPST	-	TOTAL TEXAS SYSTEM SALES:MWH
TVCSPS	-	TOTAL FUEL AND PURCHASED POWER EXPENSE REQUIREMENTS:000'S OF $
VCNG	-	NATURAL GAS COST:000'S OF $
VCPLNTA	-	VARIABLE COST FOR PLANT A:000'S OF $
VCPLNTB	-	VARIABLE COST FOR PLANT B:000'S OF $
VCPLNTC	-	VARIABLE COST FOR PLANT C:000'S OF $
VCPLNTD	-	VARIABLE COST FOR PLANT D:000'S OF $
VCPPNU	-	PURCHASED POWER COST FROM NON-UTILITY SOURCES: 000'S OF $

EXOGENOUS:

APTDUM	-	TEXAS AVERAGE PRICE DUMMY
C	-	CONSTANT TERM
CCDDINSN	-	INSTRUMENT FOR (NON-TEXAS) COMMERCIAL COOLING DEGREE DAYS
CCDDINST	-	INSTRUMENT FOR (TEXAS) COMMERCIAL COOLING DEGREE DAYS
CCSPSN	-	COMMERCIAL CUSTOMERS (NON-TEXAS):NUMBER OF CUSTOMERS
CCSPST	-	COMMERCIAL CUSTOMERS (TEXAS):NUMBER OF CUSTOMERS
CDDSPS	-	COOLING DEGREE DAYS:NUMBER OF DAYS
CHDDINSN	-	INSTRUMENT FOR (NON-TEXAS) COMMERCIAL HEATING DEGREE DAYS
CHDDINST	-	INSTRUMENT FOR (TEXAS) COMMERCIAL HEATING DEGREE DAYS

CPITX	-	TEXAS CONSUMER PRICE INDEX
GCPLANTA	-	GENERATION CAPABILITY OF PLANT A:MWH
GCPLANTB	-	GENERATION CAPABILITY OF PLANT B:MWH
GCPLANTC	-	GENERATION CAPABILITY OF PLANT C:MWH
GCPLANTD	-	GENERATION CAPABILITY OF PLANT D:MWH
GCPPNU	-	GENERATION CAPABILITY OF PURCHASED POWER FROM NON-UTILITY SOURCES:MWH
ILFCSSPS	-	LOSS FACTOR:COMMERCIAL SALES
ILFISSPS	-	LOSS FACTOR:INDUSTRIAL SALES
ILFOSSPS	-	LOSS FACTOR:OTHER SALES
ILFRSSPS	-	LOSS FACTOR:RESIDENTIAL SALES
ILFWSSPS	-	LOSS FACTOR:WHOLESALE SALES
MSSPSN	-	MISCELLANEOUS NON-TEXAS SALES:MWH
MSSPST	-	MISCELLANEOUS TEXAS SALES:MWH
NAGSPST	-	NON-AGRICULTURAL EMPLOYMENT IN TEXAS SPS SERVICE AREA:000'S OF$
NTXDUM	-	NON-TEXAS DUMMY
OSSPSN	-	OTHER NON-TEXAS SALES:MWH
OSSPST	-	OTHER TEXAS SALES:MWH
PNGIND	-	PRICE OF NATURAL GAS TO INDUSTRIAL CUSTOMERS: $ PER MCF
PPIF	-	PRODUCER PRICE INDEX:FINISHED GOODS
RCDDINSN	-	INSTRUMENT FOR (NON-TEXAS) RESIDENTIAL COOLING DEGREE DAYS
RCDDINST	-	INSTRUMENT FOR (TEXAS) RESIDENTIAL COOLING DEGREE DAYS
RCSPST	-	RESIDENTIAL CUSTOMER (TEXAS):NUMBER OF CUSTOMERS
RHDDINSN	-	INSTRUMENT FOR (TEXAS) RESIDENTIAL HEATING DEGREE DAYS
RHDDINST	-	INSTRUMENT FOR (TEXAS) RESIDENTIAL HEATING DEGREE DAYS
TIME	-	TIME TREND VARIABLE
UFCNG	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN NATURAL GAS PLANY:OOO'S OF $
UFCPLANTA	-	VARIABLE COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT A:000'S OF $ PER MWH
UFCPLANTB	-	VARIABLE COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT B:000'S OF $ PER MWH
UFCPLANTC	-	VARIABLE COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT C:000'S OF $ PER MWH
UFCPLANTD	-	VARIABLE COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT D:000'S OF $ PER MWH

UFCPPNU	-	UNIT COST OF PURCHASED POWER FROM NON-UTILITY SOURCES:000'S OF $ PER MWH
WSSPSN	-	WHOLESALE NON-TEXAS SALES:MWH
WSSPST	-	WHOLESALE TEXAS SALES:MWH

IDENTITIES

RAPINST	=	(RAPSPST(-4)/CPITX(-4))*RCSPST
CAPINST	=	(CAPSPST(-2)/PPIF(-2))*CCSPST
IAPINST	=	IAPSPST/PNGIND
RAPINSN	=	(RAPSPSN(-4)/CPITX(-4))*RCSPSN
TSSPST	=	RSSPST+CSSPST+ISSPST+WSSPST+OSSPST+MSSPST
TSSPSN	=	RSSPSN+CSSPSN+ISSPSN+WSSPSN+OSSPSN+MSSPSN
TSSPS	=	TSSPST+TSSPSN
MATSSPS	=	(TSSPS+TSSPS(-1)+TSSPS(-2)+TSSPS(-3))/4
AQTSPS	=	QTSPS/TSSPS
AFCSPS	=	MATFCSPS/MATSSPS
GENRSPS	=	(RSSPST+RSSPSN)*ILFRSSPS+(CSSPST+CSSPSN)*ILFCSSPS+(ISSPST+ISSPSN)*ILFISSPS+(WSSPST+WSSPSN)*ILFWSSPS+(OSSPST+OSSPSN)*ILFOSSPS+(MSSPST+MSSPSN)*ILFOSSPS
PPNUC	=	GENRSPS-GCPPNU
PLNTAC	=	PPNUC-GCPLNTA
PLNTBC	=	PLNTAC-GCPLNTB
PLNTCC	=	PLNTBC-GCPLNTC
PLNTDC	=	PLNTCC-GCPLNTD
GRPPNU	=	(PPNUC>0)*GCPPNU+(PPNUC<0)*GENRSPS
VCPPNU	=	GRPPNU*UFCPPNU
GRPLNTA	=	(PPNUC>0)*((PLNTAC>0)*GCPLNTA+(PLNTAC<0)*PPNUC)
VCPLNTA	=	GRPLNTA*UFCPLNTA
GRPLNTB	=	(PPNUC>0)*(PLNTAC>0)*((PLNTBC>0)*GCPLNTB+(PLNTBC<0)*PLNTAC)
VCPLNTB	=	GRPLNTB*UFCPLNTB
GRPLNTC	=	(PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*((PLNTCC>0)*GCPLNTC+(PLNTCC<0)*PLNTBC)
VCPLNTC	=	GRPLNTC*UFCPLNTC
GRPLNTD	=	(PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*((PLNTDC>0)*GCPLNTD+(PLNTDC<0)*PLNTCC)
VCPLNTD	=	GRPLNTD*UFCPLNTD
GRNG	=	(PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*(PLNTDC>0)*PLNTDC

VCNG = GRNG*UFCNG

TVCSPS = VCPPNU+VCPLNTA+VCPLNTB+VCPLNTC+VCPLNTD+VCNG

EQUATION ESTIMATES

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 1: TEXAS RESIDENTIAL SALES

RSSPST = a0 + a1*RSSPST(-4) + a2*RAPINST + a3*RCDDINST + a4*RHDDINST

FINAL VALUE OF RHO	=	0.337136
STANDARD ERROR OF RHO	=	0.161458
T-STATISTIC FOR RHO	=	2.08807
SUM OF SQUARED RESIDUALS	=	0.305947E+10
STANDARD ERROR OF THE REGRESSION	=	10271.3
MEAN OF DEPENDENT VARIABLE	=	259535.
STANDARD DEVIATION	=	83096.3
R^2	=	0.986575
ADJUSTED R^2	=	0.984723
DURBIN-WATSON STATISTIC	=	2.3456
LOG OF LIKELIHOOD FUNCTION	=	-359.601
NUMBER OF OBSERVATIONS	=	34

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.11211E+06	35569.	3.1519
RSSPST(-4)	0.56952	0.59343E-01	9.5971
RAPINST	-7.8537	5.9352	-1.3232
RCDDINST	0.67580E-03	0.93532E-04	7.2253
RHDDINST	0.25170E-03	0.35633E-04	7.0637

2SLS ESTIMATION

EQUATION 2: NON-TEXAS RESIDENTIAL SALES

RSSPSN = b0 + b1*RSSPSN(-4) + b2*RAPINSN + b3*NTXDUM + b4*RCDDINSN +b5*RHDDINSN

SUM OF SQUARED RESIDUALS	=	0.115603E+10
STANDARD ERROR OF THE REGRESSION	=	6207.61
MEAN OF DEPENDENT VARIABLE	=	139289.
STANDARD DEVIATION	=	27563.1
R^2	=	0.956525
ADJUSTED R^2	=	0.949279
DURBIN-WATSON STATISTIC	=	2.3115
F-STATISTIC	=	132.008
NUMBER OF OBSERVATIONS	=	36

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	59214.	16069.	3.6850
RSSPSN(-4)	0.28133	0.83809E-01	3.3568
RAPINSN	-15.368	7.9809	-1.9256
NTXDUM	28257.	6062.5	4.6610
RCDDINSN	0.76878E-03	0.92611E-04	8.3012
RHDDINSN	0.36874E-03	0.45217E-04	8.1549

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 3: TEXAS COMMERCIAL SALES

CSSPST = c0 + c1*CSSPST(-4) + c2*CAPINST + c3*CCDDINST + c4*CHDDINST

FINAL VALUE OF RHO	=	0.252682
STANDARD ERROR OF RHO	=	0.165933

T-STATISTIC FOR RHO	=	1.52280
SUM OF SQUARED RESIDUALS	=	0.364038E+10
STANDARD ERROR OF THE REGRESSION	=	11204.0
MEAN OF DEPENDENT VARIABLE	=	254570.
STANDARD DEVIATION	=	43660.8
R^2	=	0.942171
ADJUSTED R^2	=	0.934195
DURBIN-WATSON STATISTIC	=	1.8856
LOG OF LIKELIHOOD FUNCTION	=	-362.557
NUMBER OF OBSERVATIONS	=	34

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.26125E+06	35620.	7.3343
CSSPST(-4)	0.35673	0.71625E-01	4.9805
CAPINST	-53.767	15.499	-3.4691
CCDDINST	0.29230E-02	0.41060E-03	7.1188
CHDDINST	0.87497E-03	0.16231E-03	5.3909

ORDINARY LEAST SQUARES

EQUATION 4: NON-TEXAS COMMERCIAL SALES

CSSPSN = d0 + d1*CSPSN(-1) + d2*NTXDUM + d3*CCDDINSN + d4*CHDDINSN

SUM OF SQUARED RESIDUALS	=	0.659201E+09
STANDARD ERROR OF THE REGRESSION	=	4611.35
MEAN OF DEPENDENT VARIABLE	=	105384.
STANDARD DEVIATION	=	20742.6
R^2	=	0.956225
ADJUSTED R^2	=	0.950577
DURBIN-WATSON STATISTIC	=	2.1595

F-STATISTIC	=	169.293
LOG OF LIKELIHOOD FUNCTION	=	-352.096
NUMBER OF OBSERVATIONS	=	36

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	42316.	6843.7	6.1832
CSSPSN(-1)	0.20440	0.71863E-01	2.8443
NTXDUM	19118.	3658.3	5.2260
CCDDINSN	0.40375E-02	0.37624E-03	10.731
CHDDINSN	0.94221E-03	0.18903E-03	4.9843

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 5: EXAS INDUSTRIAL SALES

SSPST = e0 + e1*IAPINST + e2*CDDSPS + e3*TIME

FINAL VALUE OF RHO	=	0.300627
STANDARD ERROR OF RHO	=	0.166477
T-STATISTIC FOR RHO	=	1.80581
SUM OF SQUARED RESIDUALS	=	0.408912E+11
STANDARD ERROR OF THE REGRESSION	=	34180.7
MEAN OF DEPENDENT VARIABLE	=	920256.
STANDARD DEVIATION	=	79147.0
R^2	=	0.828862
ADJUSTED R^2	=	0.814193
DURBIN-WATSON STATISTIC	=	1.9155
LOG OF LIKELIHOOD FUNCTION	=	-460.413
NUMBER OF OBSERVATIONS	=	39

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.13380E+08	0.11555E+07	-11.580
IAPINST	-0.82465E+07	0.57199E+07	1.4417
CDDSPS	18.823	11.545	1.6304
TIME	0.13488E+08	0.10854E+07	12.427

2SLSESTIMATION

EQUATION 6: NON-TEXAS INDUSTRAL SALES

ISSPSN = f0 + f1*ISSPSN(-1) + f2*CDDSPS

SUM OF SQUARED RESIDUALS	=	0.265368E+11
STANDARD ERROR OF THE REGRESSION	=	27150.2
MEAN OF DEPENDENT VARIABLE	=	275064.
STANDARD DEVIATION	=	63009.9
R^2	=	0.827512
ADJUSTED R^2	=	0.817930
DURBIN-WATSON STATISTIC	=	2.3059
F-STATISTIC	=	84.3352
NUMBER OF OBSERVATIONS	=	39

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	2873.5	20982.	0.13695
ISSPSN(-1)	0.96795	0.72430E-0	13.364
CDDSPS	24.436	9.7576	2.5043

2SLS ESTIMATION

EQUATION 7: TEXAS RESIDENTIAL AVERAGE PRICE

RAPSPST = g0 + g1*AQTSPS + g2*AFCSPS + g3*APTDUM

SUM OF SQUARED RESIDUALS	=	0.416582E-03
STANDARD ERROR OF THE REGRESSION	=	0.355298E-02
MEAN OF DEPENDENT VARIABLE	=	0.709974E-01
STANDARD DEVIATION	=	0.539444E-02
R^2	=	0.604196
ADJUSTED R^2	=	0.568214
DURBIN-WATSON STATISTIC	=	1.7695
F-STATISTIC	=	16.6623
NUMBER OF OBSERVATIONS	=	37

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.10325E-01	0.92683E-02	1.1140
AQTSPS	1.5540	0.29420	5.2820
AFCSPS	0.79162	0.24373	3.2480
APTDUM	-0.94099E-02	0.36166E-02	-2.6018

2SLS ESTIMATION

EQUATION 8: NON-TEXAS RESIDENTIAL AVERAGE PRICE

RAPSPSN = h0 + h1*AQTSPS + h2*AFCSPS

SUM OF SQUARED RESIDUALS	=	0.314654E-03
STANDARD ERROR OF THE REGRESSION	=	0.304212E-02
MEAN OF DEPENDENT VARIABLE	=	0.663958E-01
STANDARD DEVIATION	=	0.492715E-02
R^2	=	0.644538
ADJUSTED R^2	=	0.623628
DURBIN-WATSON STATISTIC	=	1.9375
F-STATISTIC	=	30.2183
NUMBER OF OBSERVATIONS	=	37

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.12760E-02	0.79330E-02	0.16085
AQTSPS	1.5696	0.25270	6.2114
AFCSPS	0.95720	0.20851	4.5908

2SLS ESTIMATION

EQUATION 9: TEXAS COMMERCIAL AVERAGE PRICE

CAPSPST = i0 + i1*AQTSPS + i2*AFCSPS + i3*APTDUM

SUM OF SQUARED RESIDUALS	=	0.413223E-03
STANDARD ERROR OF THE REGRESSION	=	0.353863E-02
MEAN OF DEPENDENT VARIABLE	=	0.653857E-01
STANDARD DEVIATION	=	0.525710E-02
R^2	=	0.585506
ADJUSTED R^2	=	0.547825
DURBIN-WATSON STATISTIC	=	1.8913
F-STATISTIC	=	15.4851
NUMBER OF OBSERVATIONS	=	37

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.11228E-01	0.92309E-02	1.2163
AQTSPS	1.0088	0.29301	3.4427
AFCSPS	1.1677	0.24274	4.8103
APTDUM	-0.91416E-02	0.36020E-02	-2.5379

2SLS ESTIMATION

EQUATION 10 NON-TEXAS COMMERCIAL AVERAGE PRICE

CAPSPSN = j0 + j1*AQTSPS + j2*AFCSPS

SUM OF SQUARED RESIDUALS	=	0.228957E-03
STANDARD ERROR OF THE REGRESSION	=	0.259500E-02
MEAN OF DEPENDENT VARIABLE	=	0.658366E-01
STANDARD DEVIATION	=	0.485562E-02
R^2	=	0.731413
ADJUSTED R^2	=	0.715613
DURBIN-WATSON STATISTIC	=	1.7304
F-STATISTIC	=	46.0212
NUMBER OF OBSERVATIONS	=	37

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.41836E-02	0.67670E-02	0.61823
AQTSPS	1.1034	0.21555	5.1189
AFCSPS	1.3716	0.17786	7.7115

2SLS ESTIMATION

EQUATION 11: TEXAS INDUSTRIAL AVERAGE PRICE

IAPSPST = k0 + k1*AQTSPS + k2*AFCSPS + k3*APTDUM

SUM OF SQUARED RESIDUALS	=	0.213694E-03
STANDARD ERROR OF THE REGRESSION	=	0.254472E-02
MEAN OF DEPENDENT VARIABLE	=	0.434645E-01
STANDARD DEVIATION	=	0.407031E-02
R^2	=	0.644107
ADJUSTED R^2	=	0.611753
DURBIN-WATSON STATISTIC	=	1.3012
F-STATISTIC	=	19.7014
NUMBER OF OBSERVATIONS	=	37

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.37701E-02	0.66382E-02	-0.56795
AQTSPS	1.3019	0.21071	6.1787
AFCSPS	0.50417	0.17456	2.8882
APTDUM	-0.72695E-02	0.25903E-02	2.8064

2SLS ESTIMATION

EQUATION 12: NON-TEXAS INDUSTRIAL AVERAGE PRICE

APSPSN = l0 + l1*AGTSPS + l2*AFCSPS

SUM OF SQUARED RESIDUALS	=	0.571177E-03
STANDARD ERROR OF THE REGRESSION	=	0.409870E-02
MEAN OF DEPENDENT VARIABLE	=	0.460531E-01
STANDARD DEVIATION	=	0.537439E-02
R^2	=	0.450806
ADJUSTED R^2	=	0.418500
DURBIN-WATSON STATISTIC	=	1.9198
F-STATISTIC	=	13.9484
NUMBER OF OBSERVATIONS	=	37

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.70447E-02	0.10688E-01	-0.65911
AQTSPS	0.99977	0.34046	2.9365
AFCSPS	1.1211	0.28092	3.9907

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 13: TOTAL FUEL & PURCAHSED POWER EXPENSE

QTSPS = m0 + m1*TVCSPS

FINAL VALUE OF RHO	=	0.829038
STANDARD ERROR OF RHO	=	0.892434E-01
T-STATISTIC FOR RHO	=	9.28963
SUM OF SQUARED RESIDUALS	=	0.795272E+09
STANDARD ERROR OF THE REGRESSION	=	4636.15
MEAN OF DEPENDENT VARIABLE	=	17893.7
STANDARD DEVIATION	=	12871.9
R^2	=	0.875096
ADJUSTED R^2	=	0.871720
DURBIN-WATSON STATISTIC	=	1.9805
LOG OF LIKELIHOOD FUNCTION	=	-384.117
NUMBER OF OBSERVATIONS	=	39

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	25552.	6778.5	3.7695
TVCSPS	0.82595	0.61935E-01	13.336

A-7 SOUTHWESTERN ELECTRIC POWER COMPANY

MODEL: SWEPCO

SYMBOL DECLARATIONS

ENDOGENOUS:

AFCSWE	-	AVERAGE FIXED COSTS:000'S OF $ PER MWH
AQTSWE	-	AVERAGE FUEL EXPENSES AND PURCHASED POWER COSTS:000'S OF $ PER MWH
CAPINSN	-	INSTRUMENT FOR CAPSWEN
CAPINST	-	INSTRUMENT FOR CAPSWET
CAPSWEN	-	COMMERCIAL AVERAGE PRICE (NON-TEXAS):000'S OF $ PER MWH
CAPSWET	-	COMMERCIAL AVERAGE PRICE (TEXAS):000'S OF $ PER MWH
CSSWEN	-	COMMERCIAL SALES (NON-TEXAS):MWH
CSSWET	-	COMMERCIAL SALES (TEXAS):MWH
GENRSWE	-	GENERATION REQUIREMENTS:MWH
GRNG	-	GENERATION REQUIREMENTS FROM NATURAL GAS PLANT:MWH
GRPLNTA	-	GENERATION REQUIREMENT FROM PLANT A:MWH
GRPLNTB	-	GENERATION REQUIREMENT FROM PLANT B:MWH
GRPLNTC	-	GENERATION REQUIREMENT FROM PLANT C:MWH
GRPLNTD	-	GENERATION REQUIREMENT FROM PLANT D:MWH
GRPLNTE	-	GENERATION REQUIREMENT FROM PLANT E:MWH
GRPLNTF	-	GENERATION REQUIREMENT FROM PLANT F:MWH
GRPPNU	-	GENERATION REQUIREMENTS FROM PURCHASED POWER FROM NON-UTILITY SOURCES:MWH
IAPINSN	-	INSTRUMENT FOR IAPSWEN
IAPINST	-	INSTRUMENT FOR IAPSWET
IAPSWEN	-	INDUSTRIAL AVERAGE PRICE (NON-TEXAS):000'S OF $ PER MWH
IAPSWET	-	INDUSTRIAL AVERAGE PRICE (TEXAS):000'S OF $ PER MWH
ISSWEN	-	INDUSTRIAL SALES (NON-TEXAS):MWH
ISSWET	-	INDUSTRIAL SALES (TEXAS):MWH
MATSSWE	-	FOUR-QUARTER MOVING AVERAGE OF TOTAL SALES:MWH
PLNTAC	-	CONDITIONAL VARIABLE
PLNTBC	-	CONDITIONAL VARIABLE
PLNTCC	-	CONDITIONAL VARIABLE

PLNTDC - CONDITIONAL VARIABLE

PLNTEC - CONDITIONAL VARIABLE

PLNTFC - CONDITIONAL VARIABLE

PPNUC - CONDITIONAL VARIABLE

QTSWE - TOTAL FUEL EXPENSE AND PURCHASED POWER COST ESTIMATE: 000'S OF $

RAPINSN - INSTRUMENT FOR RAPSWEN

RAPINST - INSTRUMENT FOR RAPSWET

RAPSWEN - RESIDENTIAL AVERAGE PRICE (NON-TEXAS):000'S OF $ PER MWH

RAPSWET - RESIDENTIAL AVERAGE PRICE (TEXAS):000'S OF $ PER MWH

RSSWEN - RESIDENTIAL SALES (NON-TEXAS):MWH

RSSWET - RESIDENTIAL SALES (TEXAS):MWH

TSSWE - TOTAL SYSTEM SALES:MWH

TSSWEN - TOTAL NON-TEXAS SYSTEM SALES:MWH

TSSWET - TOTAL TEXAS SYSTEM SALES:MWH

TVCSWE - TOTAL FUEL AND PURCHASED POWER EXPENSE REQUIREMENTS: 000'S OF $

VCNG - NATURAL GAS COST:000'S OF $

VCPLNTA - VARIABLE COST FOR PLANT A:000'S OF $

VCPLNTB - VARIABLE COST FOR PLANT B:000'S OF $

VCPLNTC - VARIABLE COST FOR PLANT C:000'S OF $

VCPLNTD - VARIABLE COST FOR PLANT D:000'S OF $

VCPLNTE - VARIABLE COST FOR PLANT E:000'S OF $

VCPLNTF - VARIABLE COST FOR PLANT F:000'S OF $

VCPPNU - PURCHASED POWER COST FROM NON-UTILITY SOURCES: 000'S OF $

EXOGENOUS:

C - CONSTANT TERM

CCDDINSN - INSTRUMENT FOR (NON-TEXAS) COMMERCIAL COOLING DEGREE DAYS

CCDDINST - INSTRUMENT FOR (TEXAS) COMMERCIAL COOLING DEGREE DAYS

CCSWEN - COMMERCIAL CUSTOMERS (NON-TEXAS):NUMBER OF CUSTOMERS

CCSWET - COMMERCIAL CUSTOMERS (TEXAS):NUMBER OF CUSTOMERS

CDDSWE - COOLING DEGREE DAYS:NUMBER OF DAYS

CHDDINSN - INSTRUMENT FOR (NON-TEXAS) COMMERCIAL HEATING DEGREE DAYS

CHDDINST - INSTRUMENT FOR (TEXAS) COMMERCIAL HEATING DEGREE DAYS

CPITX - TEXAS CONSUMER PRICE INDEX

GCPLNTA - GENERATION CAPABILITY OF PLANT A:MWH

GCPLNTB - GENERATION CAPABILITY OF PLANT B:MWH

GCPLNTC - GENERATION CAPABILITY OF PLANT C:MWH

GCPLNTD - GENERATION CAPABILITY OF PLANT D:MWH

GCPLNTE - GENERATION CAPABILITY OF PLANT E:MWH

GCPLNTF - GENERATION CAPABILITY OF PLANT F:MWH

GCPPNU - GENERATION CAPABILITY OF PURCHASED POWER FROM NON-UTILITY SOURCES:MWH

ILFCSSWE - LOSS FACTOR:COMMERCIAL SALES

ILFISSWE - LOSS FACTOR:INDUSTRIAL SALES

ILFOSSWE - LOSS FACTOR:OTHER SALES

ILFRSSWE - LOSS FACTOR:RESIDENTIAL SALES

ILFWSSWE - LOSS FACTOR:WHOLESALE SALES

ISDUM - INDUSTRIAL SALES DUMMY

MATFCSWE - FOUR-QUARTER MOVING AVERAGE TOTAL FIXED COSTS:000'S OF $

NAGSWEN - NON-AGRICULTURAL EMPLOYMENT IN NON-TEXAS SERVICE AREA: 000'S OF PERSONS

OSSWEN - OTHER NON-TEXAS SALES:MWH

OSSWET - OTHER TEXAS SALES:MWH

PNGCOM - PRICE OF NATURAL GAS TO COMMERCIAL CUSTOMERS:$ PER MCF

PNGRES - PRICE OF NATURAL GAS TO RESIDENTIAL CUSTOMERS:$ PER MCF

POPSWET - SERVICE AREA POPULATION (TEXAS):000'S OF PERSONS

PPIF - PRODUCER PRICE INDEX:FINISHED GOODS

PPII - PRODUCER PRICE INDEX:INDUSTRIAL GOODS

RCDDINSN - INSTRUMENT FOR (NON-TEXAS) RESIDENTIAL COOLING DEGREE DAYS

RCDDINST - INSTRUMENT FOR (TEXAS) RESIDENTIAL COOLING DEGREE DAYS

RCSWEN - RESIDENTIAL CUSTOMER (NON-TEXAS):NUMBER OF CUSTOMERS

RCSWET - RESIDENTIAL CUSTOMER (TEXAS):NUMBER OF CUSTOMERS

RHDDINSN - INSTRUMENT FOR (NON-TEXAS) RESIDENTIAL HEATING DEGREE DAYS

QRHDDINST - INSTRUMENT FOR (TEXAS) RESIDENTIAL HEATING DEGREE DAYS

RPISWEN - REAL PERSONAL INCOME (NON-TEXAS):BILLIONS OF $

RPISWET - REAL PERSONAL INCOME (TEXAS):BILLIONS OF $

UFCNG - FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN NATURAL GAS PLANT:OOO'S OF $

UFCPLNTA - VARIABLE COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT A: 000'S OF $ PER MWH

UFCPLNTB - VARIABLE COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT B: 000'S OF $ PER MWH

UFCPLNTC - VARIABLE COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT C: 000'S OF $ PER MWH

UFCPLNTD - VARIABLE COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT D: 000'S OF $ PER MWH

UFCPLNTE - VARIABLE COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT E: 000'S OF $ PER MWH

UFCPLNTF - VARIABLE COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT F: 000'S OF $ PER MWH

UFCPPNU - UNIT COST OF PURCHASED POWER FROM NON-UTILITY SOURCES: 000'S OF $ PER MWH

WSSWEN - WHOLESALE NON-TEXAS SALES:MWH

WSSWET - WHOLESALE TEXAS SALES:MWH

IDENTITIES

RAPINST = (RAPSWET(-3)/PNGRES(-3))*RCSWET

CAPINST = (CAPSWET(-1)/PPIF(-1))*CCSWET

IAPINST = IAPSWET(-4)/CPITX(-4)

RAPINSN = (RAPSWEN(-3)/PNGRES(-3))*RCSWEN

CAPINSN = (CAPSWEN(-3)/PNGCOM(-3))*CCSWEN

IAPINSN = IAPSWEN(-3)/PPII(-3)

TSSWET = RSSWET+CSSWET+ISSWET+WSSWET+OSSWET

TSSWEN = RSSWEN+CSSWEN+ISSWEN+WSSWEN+OSSWEN

TSSWE = TSSWET+TSSWEN

MATSSWE = (TSSWE+TSSWE(-1)+TSSWE(-2)+TSSWE(-3))/4

AFCSWE = MATFCSWE/MATSSWE

AQTSWE = QTSWE/TSSWE

GENRSWE = (RSSWET+RSSWEN)*ILFRSSWE+(CSSWET+CSSWEN)*ILFCSSWE+ (ISSWET+ISSWEN)*ILFISSWE+(WSSWET+WSSWEN)*ILFWSSWE+ (OSSWET+OSSWEN)*ILFOSSWE

PPNUC = GENRSWE-GCPPNU

PLNTAC = PPNUC-GCPLNTA

PLNTBC = PLNTAC-GCPLNTB

PLNTCC = PLNTBC-GCPLNTC

PLNTDC = PLNTCC-GCPLNTD

PLNTEC = PLNTDC-GCPLNTE

PLNTFC = PLNTEC-GCPLNTF

GRPPNU = (PPNUC>0)*GCPPNU+(PPNUC<0)*GENRSWE

VCPPNU = GRPPNU*UFCPPNU

GRPLNTA = (PPNUC>0)*((PLNTAC>0)*GCPLNTA+(PLNTAC<0)*PPNUC)

VCPLNTA = GRPLNTA*UFCPLNTA

GRPLNTB = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*GCPLNTB+(PLNTBC<0)*PLNTAC)

VCPLNTB = GRPLNTB*UFCPLNTB

GRPLNTC = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*((PLNTCC>0)*GCPLNTC+ (PLNTCC<0)*PLNTBC)

VCPLNTC = GRPLNTC*UFCPLNTC

GRPLNTD = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*((PLNTDC>0)* GCPLNTD+(PLNTDC<0)*PLNTCC)

VCPLNTD = GRPLNTD*UFCPLNTD

GRPLNTE = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*(PLNTDC>0)* ((PLNTEC>0)*GCPLNTE+(PLNTEC<0)*PLNTDC)

VCPLNTE = GRPLNTE*UFCPLNTE

GRPLNTF = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*(PLNTDC>0)* (PLNTEC>0)*((PLNTFC>0)*GCPLNTF+(PLNTFC<0)*PLNTEC)

VCPLNTF = GRPLNTF*UFCPLNTF

GRNG = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*(PLNTDC>0)* (PLNTEC>0)*(PLNTFC>0)*PLNTFC

VCNG = GRNG*UFCNG

TVCSWE = VCPPNU+VCPLNTA+VCPLNTB+VCPLNTC+VCPLNTD+VCPLNTE+ VCPLNTF+VCNG

EQUATION ESTIMATES

2SLS ESTIMATION

EQUATION 1: TEXAS RESIDENTIAL SALES

RSSWET = a0 + a1*RSSWET(-4) + a2*RAPINST + a3*RPISWET + a4*RCDDINST + a5*RHDDINST

SUM OF SQUARED RESIDUALS	=	0.110814E+11
STANDARD ERROR OF THE REGRESSION	=	16243.2
MEAN OF DEPENDENT VARIABLE	=	331528.

STANDARD DEVIATION	=	94899.9
R^2	=	0.973821
ADJUSTED R^2	=	0.970705
DURBIN-WATSON STATISTIC	=	1.7771
F-STATISTIC	=	312.460
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.11179E+06	63920.	-1.7489
RSSWET(-4)	0.36926	0.62334E-01	5.9239
RAPINST	-41.781	19.310	-2.1637
RPISWET	0.12508E+06	30248.	4.1353
RCDDINST	0.15357E-02	0.14841E-03	10.348
RHDDINST	0.75427E-03	0.81248E-04	9.2836

2SLS ESTIMATION

EQUATION 2: NON-TEXAS RESIDENTIAL SALES

RSSWEN = b0 + b1*RSSWEN(-4) + b2*RAPINSN + b3*RPISWEN + b4*RCDDINSN + b5*RHDDINSN

SUM OF SQUARED RESIDUALS	=	0.221938E+11
STANDARD ERROR OF THE REGRESSION	=	22987.5
MEAN OF DEPENDENT VARIABLE	=	487840.
STANDARD DEVIATION	=	148333.
R^2	=	0.978539
ADJUSTED R^2	=	0.975984
DURBIN-WATSON STATISTIC	=	1.9493
F-STATISTIC	=	383.003
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-57470.	54780.	-1.0491
RSSWEN(-4)	0.35048	0.57165E-01	6.1311
RAPINSN	-48.916	17.395	-2.8120
RPISWEN	82041.	15635.	5.2471
RCDDINSN	0.14569E-02	0.12591E-03	11.570
RHDDINSN	0.60937E-03	0.63927E-04	9.5323

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 3: TEXAS COMMERCIAL SALES

CSSWET = c0 + c1*CAPINST + c2*POPSWET + c3*CCDDINST + c*CHDDINST

FINAL VALUE OF RHO	=	0.715447
STANDARD ERROR OF RHO	=	0.107199
T-STATISTIC FOR RHO	=	6.67399
SUM OF SQUARED RESIDUALS	=	0.782053E+10
STANDARD ERROR OF THE REGRESSION	=	13811.0
MEAN OF DEPENDENT VARIABLE	=	72896.4
STANDARD DEVIATION	=	50464.1
R^2	=	0.931874
ADJUSTED R^2	=	0.925227
DURBIN-WATSON STATISTIC	=	1.9931
LOG OF LIKELIHOOD FUNCTION	=	-501.511
NUMBER OF OBSERVATIONS	=	46

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.56691E+06	0.17810E+06	-3.1830
CAPINST	-46.880	42.528	-1.1023
POPSWET	1722.1	425.98	4.0426
CCDDINST	0.46795E-02	0.34513E-03	13.559
CHDDINST	0.15125E-02	0.30850E-03	4.9029

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 4: NON-TEXAS COMMERCIAL SALES

CSSWEN = d0 + d1*CAPINSN + d2*NAGSWEN + d3*CCDDINSN + d4*CHDDINSN

FINAL VALUE OF RHO	=	0.663189
STANDARD ERROR OF RHO	=	0.112975
T-STATISTIC FOR RHO	=	5.87025
SUM OF SQUARED RESIDUALS	=	0.631609E+10
STANDARD ERROR OF THE REGRESSION	=	12119.6
MEAN OF DEPENDENT VARIABLE	=	125162.
STANDARD DEVIATION	=	68934.8
R^2	=	0.971723
ADJUSTED R^2	=	0.969092
DURBIN-WATSON STATISTIC	=	1.7954
LOG OF LIKELIHOOD FUNCTION	=	-517.083
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.48440E+06	78159.	-6.1977
CAPINSN	-413.61	114.07	-3.6260
NAGSWEN	2706.7	276.12	9.8025
CCDDINSN	0.60183E-02	0.20426E-03	29.463
CHDDINSN	0.17938E-02	0.15868E-03	11.305

2 SLS ESTIMATION

EQUATION 5: TEXAS INDUSTRIAL SALES

ISSWET = e0 + e1*ISSWET(-1) + e2*IAPINST + e3*POPSWET + e4*ISDUM + e5*CDDSWE

SUM OF SQUARED RESIDUALS	=	0.161202E+11
STANDARD ERROR OF THE REGRESSION	=	19591.2
MEAN OF DEPENDENT VARIABLE	=	642921.
STANDARD DEVIATION	=	113604.
R^2	=	0.973425
ADJUSTED R^2	=	0.970261
DURBIN-WATSON STATISTIC	=	1.6334
F-STATISTIC	=	307.678
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.54046E+06	0.11692E+06	-4.6227
ISSWET(-1)	0.66735	0.57056E-01	11.696
IAPINST	-0.55440E+07	0.17114E+07	-3.2394
POPSWET	1800.9	328.99	5.4742
ISDUM	-0.12576E+06	14992.	-8.3888
CDDSWE	26.939	5.0349	5.3504

2 SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 6: NON-TEXAS INDUSTRIAL SALES

ISSWEN = f0 + f1*IAPINSN + f2*NAGSWEN + f3*CDDSWE

FINAL VALUE OF RHO	=	0.689848
STANDARD ERROR OF RHO	=	0.109264

T-STATISTIC FOR RHO	=	6.31362
SUM OF SQUARED RESIDUALS	=	0.816566E+10
STANDARD ERROR OF THE REGRESSION	=	14287.8
MEAN OF DEPENDENT VARIABLE	=	160753.
STANDARD DEVIATION	=	45755.4
R^2	=	0.910019
ADJUSTED R^2	=	0.903271
DURBIN-WATSON STATISTIC	=	2.2835
LOG OF LIKELIHOOD FUNCTION	=	-481.615
NUMBER OF OBSERVATIONS	=	44

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.41867E+06	0.11910E+06	-3.5152
IAPINSN	-0.22984E+07	0.69354E+06	-3.3139
NAGSWEN	3070.6	409.05	7.5068
CDDSWE	55.550	3.3687	16.490

2 SLS ESTIMATION

EQUATION 7: TEXAS RESIDENTIAL AVERAGE PRICE

RAPSWET = g0 + g1*AQTSWE + g2*AFCSWE

SUM OF SQUARED RESIDUALS	=	0.119886E-02
STANDARD ERROR OF THE REGRESSION	=	0.516152E-02
MEAN OF DEPENDENT VARIABLE	=	0.557514E-01
STANDARD DEVIATION	=	0.152561E-01
R^2	=	0.890411
ADJUSTED R^2	=	0.885540
DURBIN-WATSON STATISTIC	=	2.1315
F-STATISTIC	=	182.805
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.94839E-03	0.31982E-02	-0.29654
AQTSWE	0.46814	0.17435	2.6851
AFCSWE	1.6786	0.14036	11.959

2 SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 8: NON-TEXAS RESIDENTIAL AVERAGE PRICE

RAPSWEN = h0 + h1*AQTSWE + h2*AFCSWE

FINAL VALUE OF RHO	=	0.724075
STANDARD ERROR OF RHO	=	0.984298E-01
T-STATISTIC FOR RHO	=	7.35626
SUM OF SQUARED RESIDUALS	=	0.821447E-03
STANDARD ERROR OF THE REGRESSION	=	0.427251E-02
MEAN OF DEPENDENT VARIABLE	=	0.154931E-01
STANDARD DEVIATION	=	0.572304E-02
R^2	=	0.469039
ADJUSTED R^2	=	0.445441
DURBIN-WATSON STATISTIC	=	1.8454
LOG OF LIKELIHOOD FUNCTION	=	194.935
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.63265E-02	0.80657E-02	-0.78437
AQTSWE	0.84804	0.24354	3.4821
AFCSWE	1.4646	0.30860	4.7459

2SLS ESTIMATION

EQUATION 9: TEXAS COMMERCIAL AVERAGE PRICE

CAPSWET = i0 + i1*AQTSWE + i2*AFCSWE

SUM OF SQUARED RESIDUALS	=	0.285314E-03
STANDARD ERROR OF THE REGRESSION	=	0.251800E-02
MEAN OF DEPENDENT VARIABLE	=	0.464709E-01
STANDARD DEVIATION	=	0.980766E-02
R^2	=	0.936891
ADJUSTED R^2	=	0.934086
DURBIN-WATSON STATISTIC	=	2.1108
F-STATISTIC	=	334.024
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.87076E-02	0.15602E-02	5.5811
AQTSWE	0.39161	0.85053E-01	4.6044
AFCSWE	1.0512	0.68474E-01	15.353

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 10: NON-TEXAS COMMERCIAL AVERAGE PRICE

CAPSWEN = j0 + j1*AQTSWE + j2*AFCSWE

FINAL VALUE OF RHO	=	0.540903
STANDARD ERROR OF RHO	=	0.121810
T-STATISTIC FOR RHO	=	4.44054
SUM OF SQUARED RESIDUALS	=	0.387136E-03
STANDARD ERROR OF THE REGRESSION	=	0.293309E-02

MEAN OF DEPENDENT VARIABLE	=	0.215443E-01
STANDARD DEVIATION	=	0.574128E-02
R^2	=	0.750558
ADJUSTED R^2	=	0.739472
DURBIN-WATSON STATISTIC	=	1.8378
LOG OF LIKELIHOOD FUNCTION	=	213.188
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.28089E-03	0.36138E-02	0.77729E-01
AQTSWE	0.25321	0.15382	1.6462
AFCSWE	1.4474	0.14829	9.7605

2SLS ESTIMATION

EQUATION 11: TEXAS INDUSTRIAL AVERAGE PRICE

IAPSWET = k0 + k1*AQTSWE + k2*AFCSWE

SUM OF SQUARED RESIDUALS	=	0.234576E-03
STANDARD ERROR OF THE REGRESSION	=	0.228316E-02
MEAN OF DEPENDENT VARIABLE	=	0.346209E-01
STANDARD DEVIATION	=	0.816443E-02
R^2	=	0.925128
ADJUSTED R^2	=	0.921800
DURBIN-WATSON STATISTIC	=	1.6703
F-STATISTIC	=	278.003
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.26910E-02	0.14147E-02	1.9022
AQTSWE	0.49808	0.77120E-01	6.4585
AFCSWE	0.74927	0.62087E-01	12.068

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 12: NON-TEXAS INDUSTRIAL AVERAGE PRICE

IAPSWEN = l0 + l1*AQTSWE + l2*AFCSWE

FINAL VALUE OF RHO	=	0.377398
STANDARD ERROR OF RHO	=	0.135733
T-STATISTIC FOR RHO	=	2.78044
SUM OF SQUARED RESIDUALS	=	0.354922E-03
STANDARD ERROR OF THE REGRESSION	=	0.280841E-02
MEAN OF DEPENDENT VARIABLE	=	0.239325E-01
STANDARD DEVIATION	=	0.670399E-02
R^2	=	0.832177
ADJUSTED R^2	=	0.824719
DURBIN-WATSON STATISTIC	=	1.6687
LOG OF LIKELIHOOD FUNCTION	=	215.370
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.24382E-02	0.26603E-02	-0.91654
AQTSWE	0.26006	0.12997	2.0010
AFCSWE	1.2548	0.11323	11.082

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 13: TOTAL FUEL EXPENSE & PURCHASED POWER COST

QTSWE = m0 + m1*TVCSWE

FINAL VALUE OF RHO	=	0.716916
STANDARD ERROR OF RHO	=	0.102739
T-STATISTIC FOR RHO	=	6.97806
SUM OF SQUARED RESIDUALS	=	0.336192E+10
STANDARD ERROR OF THE REGRESSION	=	8548.99
MEAN OF DEPENDENT VARIABLE	=	21376.4
STANDARD DEVIATION	=	14520.8
R^2	=	0.661759
ADJUSTED R^2	=	0.654406
DURBIN-WATSON STATISTIC	=	2.1573
LOG OF LIKELIHOOD FUNCTION	=	-502.020
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	31101.	6136.4	5.0683
TVCSWE	0.70323	0.77958E-01	9.0207

A-8 LOWER COLORADO RIVER AUTHORITY

MODEL: LCRA

SYMBOL DECLARATIONS

ENDOGENOUS:

AFCLCRA	-	AVERAGE FIXED COSTS:000'S OF $ PER MWH
AQTLCRA	-	AVERAGE FUEL AND PURCHASED POWER COSTS: 000'S OF $ PER MWH
CAPINST	-	INSTRUMENT FOR COMMERCIAL AVERAGE PRICE
COCLCRA0	-	TOTAL COAL COST:DOLLARS
COCLCRA1	-	CONDITIONAL VARIABLE IN THE IF ARGUMENT
COCLCRA2	-	CONDITIONAL VARIABLE IN THE IF ARGUMENT
CORCOND	-	CONDITIONAL VARIABLE IN THE IF ARGUMENT
CSLCRA	-	COMMERCIAL SALES:MWH
GENRLCRA	-	GENERATION REQUIREMENTS:MWH
GRNG	-	GENERATION REQUIREMENTS FROM NATURAL GAS PLANT:MWH
GRHY	-	GENERATION REQUIREMENTS FROM HYDROELECTRIC:MWH
GRPLNTA	-	GENERATION REQUIREMENT FROM PLANT A:MWH
GRPLNTB	-	GENERATION REQUIREMENT FROM PLANT B:MWH
GRPPNU	-	GENERATION REQUIREMENTS FROM PURCHASED POWER FROM NON-UTILITY SOURCES:MWH
IAPLCRA	-	INDUSTRIAL AVERAGE PRICE:000'S OF $ PER MWH
IAPINST	-	INSTRUMENT FOR INDUSTRIAL AVERAGE PRICE
ISLCRA	-	INDUSTRIAL SALES:MWH
PLNTAC	-	CONDITIONAL VARIABLE
PLNTBC	-	CONDITIONAL VARIABLE
PPNUC	-	CONDITIONAL VARIABLE
QTLCRA	-	TOTAL FUEL EXPENSE AND PURCHASED POWER COST ESTIMATE:000'S OF $
RAPINST	-	INSTRUMENT FOR RESIDENTIAL AVERAGE PRICE
RSLCRA	-	RESIDENTIAL SALES:MWH
TVCLCRA	-	TOTAL FUEL AND PURCHASED POWER EXPENSE REQUIREMENTS: 000'S OF $
TSLCRA	-	TOTAL SYSTEM SALES:MWH
VCNG	-	NATURAL GAS COST:000'S OF $

VCPLNTA - VARIABLE COST FOR PLANT A: 000'S OF $

VCPLNTB - VARIABLE COST FOR PLANT B: 000'S OF $

VCPPNU - PURCHASED POWER COST FROM NON-UTILITY SOURCES: 000'S OF $

EXOGENOUS:

APDUM - DUMMY IN AVERAGE PRICE EQUATION

CCLCRA - COMMERCIAL CUSTOMERS:NUMBER OF CUSTOMERS

CCDDINST - INSTRUMENT FOR COMMERCIAL COOLING DEGREE DAYS

CDDLCRA - COOLING DEGREE DAYS:NUMBER OF DAYS

CSDUM - DUMMY IN COMMERCIAL SALES EQUATION

GCPPNU - GENERATION CAPABILITY OF PURCAHASED POWER FROM NON-UTILITY SOURCES:MWH

GCPLNTA - GENERATION CAPABILITY OF PLANT A:MWH

GCPLNTB - GENERATION CAPABILITY OF PLANT B:MWH

ILFCSLCRA - LOSS FACTOR: COMMERCIAL SALES

ILFISLCRA - LOSS FACTOR: INDUSTRIAL SALES

ILFOSLCRA - LOSS FACTOR: OTHER SALES

ILFRSLCRA - LOSS FACTOR: RESIDENTIAL SALES

ILFWSLCRA - LOSS FACTOR: WHOLESALE SALES

ISDUM - DUMMY FOR INDUSTRIAL SALES

MATFCLCRA - FOUR QUARTER MOVING AVERAGE TOTAL FIXED COSTS:000'S OF DOLLARS

NAGLCRA - NON-AGRICULTURAL EMPLOYMENT IN LCRA SERVICE AREA:000'S OF PERSONS

OSLCRA - OTHER SALES:MWH

PNGCOM - PRICE OF NATURAL GAS TO COMMERCIAL CUSTOMERS: $ PER MCF

PNGIND - PRICE OF NATURAL GAS TO INDUSTRIAL CUSTOMERS: $ PER MCF

PNGRES - PRICE OF NATURAL GAS TO RESIDENTIAL CUSTOMERS:$ PER MCF

POPLCRA - POPULATION DATA:000'S OF PERSONS

QALCRACO - AVERAGE PRICE OF COAL:DOLLARS PER MMBTU

QALCRANG - AVERAGE PRICE OF NATURAL GAS:DOLLARS PER MMBTU

QALCRANU - AVERAGE PRICE OF NUCLEAR FUEL:DOLLARS PER MMBTU

QCLCRACO - COAL CAPACITY:MW

QCLCRANU - NUCLEAR CAPACITY:MW

RCLCRA - RESIDENTIAL CUSTOMERS:NUMBER OF CUSTOMERS

RCDDINST	-	INSTRUMENT FOR RESIDENTIAL COOLING DEGREE DAYS
RHDDINST	-	INSTRUMENT FOR RESIDENTIAL HEATING DEGREE DAYS
RPILCRA	-	REAL PERSONAL INCOME (BILLIONS OF DOLLARS)
UFCNG	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN NATURAL GAS PLANT: 000'S OF $
UFCPLNTA	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT A :000'S OF $
UFCPLNTB	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT B:000'S OF $
UFCPPNU	-	UNIT COST OF PURCHASED POWER FROM NON-UTILITY SOURCES:000'S OF $ PER MWH
WSLCRA	-	WHOLESALE SALES:MWH

IDENTITIES

RAPINST	=	(WAPLCRA(-4)/CPITX(-4))*RCLCR
CAPINST	=	(WAPLCRA(-4)/PNGCOM(-4))*CCLCR
IAPINST	=	WAPLCRA(-3)/PNGIND(-3)
OAPINST	=	WAPLCRA(-4)/GNPD(-4)
TSLCRA	=	RSLCRA+CSLCRA+ISLCRA+OSLCRA
AQTLCR	=	QTLCR/TSLCRA
AFCLCR	=	MATFCLCR/(TSLCRA+TSLCRA(-1)+ TSLCRA(-2)+TSLCRA(-3))
GENRLCR	=	RSLCRA*ILFRSLCR+CSLCRA*ILFCSLCR+ISLCRA*ILFISLCR+ OSLCRA*ILFOSLCR;
PPNUC	=	GENRLCR-GCPPNU
HYC	=	PPNUC-GCHY
PLNTAC	=	HYC-GCPLNTA
PLNTBC	=	PLNTAC-GCPLNTB
GRPPNU	=	(PPNUC>0)*GCPPNU+(PPNUC<0)*GENRLCR
VCPPNU	=	GRPPNU*UFCPPNU
GRHY	=	(PPNUC>0)*((HYC>0)*GCPPNU+(HYC<0)*PPNUC)
GRPLNTA	=	(PPNUC>0)*(HYC>0)*((PLNTAC>0)*GCPLNTA+(PLNTAC<0)*HYC)
VCPLNTA	=	GRPLNTA*UFCPLNTA
GRPLNTB	=	(PPNUC>0)*(HYC>0)*(PLNTAC>0)*((PLNTBC>0)*GCPLNTB+ (PLNTBC<0)*PLNTAC)
VCPLNTB	=	GRPLNTB*UFCPLNTB;
GRNG	=	(PPNUC>0)*(HYC>0)* (PLNTAC>0)*(PLNTBC>0)*PLNTBC
VCNG	=	GRNG*UFCNG;
TVCLCR	=	VCPPNU+VCPLNTA+VCPLNTB+VCNG;

EQUATION ESTIMATES

2SLS USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 1: RESIDENTIAL SALES

RSLCRA = a0 + a1*RAPINST + a2*RPILCRA + a3*RCDDINST + a4*RHDDINST

FINAL VALUE OF RHO	=	-0.927440
STANDARD ERROR OF RHO	=	0.562601E-01
T-STATISTIC FOR RHO	=	-16.4849
SUM OF SQUARED RESIDUALS	=	0.259460E+11
STANDARD ERROR OF THE REGRESSION	=	29911.4
MEAN OF DEPENDENT VARIABLE	=	0.149826E+07
STANDARD DEVIATION	=	339323.
R^2	=	0.993257
ADJUSTED R^2	=	0.992326
DURBIN-WATSON STATISTIC	=	2.1093
LOG OF LIKELIHOOD FUNCTION	=	-396.927
NUMBER OF OBSERVATIONS	=	34

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.30216E+06	43310.	-6.9766
RAPINST	-50.338	5.6749	-8.8702
RPILCRA	0.16895E+07	82403.	20.503
RCDDINST	0.11310E-02	0.10727E-03	10.543
RHDDINST	0.12056E-02	0.16134E-03	7.4723

2SLS ESTIMATION

EQUATION 2: COMMERCIAL SALES

CSLCRA = b0 + b1*CSLCRA(-1) + b2*CAPINST + b3*NAGLCRA + CCDDINST + b5*CHDDINST

SUM OF SQUARED RESIDUALS	=	0.137346E+11
STANDARD ERROR OF THE REGRESSION	=	22983.8
MEAN OF DEPENDENT VARIABLE	=	537030.
STANDARD DEVIATION	=	78341.4
R^2	=	0.928229
ADJUSTED R^2	=	0.914427
DURBIN-WATSON STATISTIC	=	1.9454
F-STATISTIC(5,26)	=	66.8331
NUMBER OF OBSERVATIONS	=	32

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.47119E+06	0.12662E+06	-3.7212
CSLCRA(-1)	0.18628	0.76519E-01	2.4344
CAPINST	-1145.1	402.82	-2.8427
NAGLCRA	7709.8	1627.7	4.7367
CCDDINST	0.31367E-02	0.50846E-03	6.1690
CHDDINST	0.11426E-02	0.76839E-03	1.4871

2SLS ESTIMATION

EQUATION 3: INDUSTRIAL SALES

ISLCRA = c0 + c1*ISLCRA(-1) + c2*IAPINST + c3*NAGLCRA + c4*CDDLCR + c5*ISDUM

SUM OF SQUARED RESIDUALS	=	0.192578E+10

STANDARD ERROR OF THE REGRESSION	=	8012.04
MEAN OF DEPENDENT VARIABLE	=	161374.
STANDARD DEVIATION	=	49646.1
R^2	=	0.977686
ADJUSTED R^2	=	0.973967
DURBIN-WATSON STATISTIC	=	2.0870
F-STATISTIC(5,30)	=	262.771
NUMBER OF OBSERVATIONS	=	36

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-69799.	46577.	-1.4986
ISLCRA(-1)	0.21906	0.13430	1.6311
IAPINST	-0.18826E+07	0.17349E+07	-1.0851
NAGLCRA	1291.5	55.49	3.6330
CDDLCR	7.4915	2.9368	2.5509
ISDUM	69789.	9365.6	7.4516

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 4: OTHER SALES

OSLCRA = d0 + d1*OSLCRA(-4) + d2*OAPINST + d3*POPLCRA + d4*CDDLCR + d5*HDDLCR

FINAL VALUE OF RHO	=	0.325713
STANDARD ERROR OF RHO	=	0.164585
SUM OF SQUARED RESIDUALS	=	0.124042E+09
STANDARD ERROR OF THE REGRESSION	=	2143.39
MEAN OF DEPENDENT VARIABLE	=	27780.5
STANDARD DEVIATION	=	6789.57
R^2	=	0.915926
ADJUSTED R^2	=	0.900357

DURBIN-WATSON STATISTIC = 1.9154
LOG OF LIKELIHOOD FUNCTION = -296.629
NUMBER OF OBSERVATIONS = 33

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-21908.	18981.	-1.1542
OSLCRA(-4)	0.45036	0.15523	2.9012
OAPINST	-0.29779E+06	0.15134E+06	-1.9677
POPLCRA	95.521	31.900	2.9944
CDDLCR	6.5013	2.4249	2.6810
HDDLCR	4.6768	2.6107	1.7914

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD TECHNIQUE

EQUATION 5: WHOLESALE PRICE

WAPLCRA = e0 + e1*AQTLCR + e2*AFCLCR

FINAL VALUE OF RHO = 0.239105
STANDARD ERROR OF RHO = 0.175130
T-STATISTIC FOR RHO = 1.36530
SUM OF SQUARED RESIDUALS = 0.170752E-03
STANDARD ERROR OF THE REGRESSION = 0.230998E-02
MEAN OF DEPENDENT VARIABLE = 0.287588E-01
STANDARD DEVIATION = 0.389313E-02
R^2 = 0.673998
ADJUSTED R^2 = 0.653623
DURBIN-WATSON STATISTIC = 1.9861
LOG OF LIKELIHOOD FUNCTION = 164.344
NUMBER OF OBSERVATIONS = 35

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.12981E-01	0.38264E-02	3.3926
AQTLCR	0.60229	0.77235E-01	7.7982
AFCLCR	0.69901	0.18572	3.7638

2SLS ESTIMATION

EQUATION 6: TOTAL FUEL EXPENSE

QTLCR = f0 + f1*TVCLCR

SUM OF SQUARED RESIDUALS	=	0.328804E+09
STANDARD ERROR OF THE REGRESSION	=	2981.04
MEAN OF DEPENDENT VARIABLE	=	36022.7
STANDARD DEVIATION	=	8965.95
R^2	=	0.893435
ADJUSTED R^2	=	0.890555
DURBIN-WATSON STATISTIC	=	1.9750
F-STATISTIC(1, 37)	=	306.748
NUMBER OF OBSERVATIONS	=	39

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	4693.6	1873.7	2.5050
TVCLCR	0.86728	0.50158E-01	17.291

A-9 WEST TEXAS UTILITIES COMPANY

MODEL: WTU

SYMBOL DECLARATIONS

ENDOGENOUS:

AFCWTU	-	AVERAGE FIXED COSTS:000'S OF $ PER MWH
AQTWTU	-	AVERAGE FUEL AND PURCHASED POWER COSTS: 000'S OF $ PER MWH
CAPWTU	-	COMMERCIAL AVERAGE PRICE:000'S OF $ PER MWH
CAPINST	-	INSTRUMENT FOR CAPWTU
CSWTU	-	COMMERCIAL SALES:MWH
GENRWTU	-	GENERATION REQUIREMENTS:MWH
GRNG	-	GENERATION REQUIREMENTS FROM NATURAL GAS PLANT:MWH
GRPLNTA	-	GENERATION REQUIREMENT FROM PLANT A:MWH
GRPLNTB	-	GENERATION REQUIREMENT FROM PLANT B:MWH
GRPLNTC	-	GENERATION REQUIREMENT FROM PLANT C:MWH
GRPLNTD	-	GENERATION REQUIREMENT FROM PLANT D:MWH
GRPLNTE	-	GENERATION REQUIREMENT FROM PLANT E:MWH
GRPPNU	-	GENERATION REQUIREMENTS FROM PURCHASED POWER FROM NON-UTILITY SOURCES:MWH
IAPWTU	-	INDUSTRIAL AVERAGE PRICE:000'S OF $ PER MWH
IAPINST	-	INSTRUMENT FOR IAPWTU
ISWTU	-	INDUSTRIAL SALES:MWH
PLNTAC	-	CONDITIONAL VARIABLE
PLNTBC	-	CONDITIONAL VARIABLE
PLNTCC	-	CONDITIONAL VARIABLE
PLNTDC	-	CONDITIONAL VARIABLE
PLNTEC	-	CONDITIONAL VARIABLE
PPNUC	-	CONDITIONAL VARIABLE
QTWTU	-	TOTAL FUEL EXPENSE AND PURCHASED POWER COST ESTIMATE:000'S OF $
RAPWTU	-	RESIDENTIAL AVERAGE PRICE:000'S OF $ PER MWH
RAPINST	-	INSTRUMENT FOR RAPWTU
RSWTU	-	RESIDENTIAL SALES:MWH

TVCWTU	-	TOTAL FUEL AND PURCHASED POWER EXPENSE REQUIREMENTS: 000'S OF $
TSWTU	-	TOTAL SYSTEM SALES:MWH
VCNG	-	NATURAL GAS COST:000'S OF $
VCPLNTA	-	VARIABLE COST FOR PLANT A: 000'S OF $
VCPLNTB	-	VARIABLE COST FOR PLANT B: 000'S OF $
VCPLNTC	-	VARIABLE COST FOR PLANT C: 000'S OF $
VCPLNTD	-	VARIABLE COST FOR PLANT D: 000'S OF $
VCPLNTE	-	VARIABLE COST FOR PLANT E: 000'S OF $
VCPPNU	-	PURCHASED POWER COST FROM NON-UTILITY SOURCES: 000'S OF $
WAPWTU	-	WHOLESALE AVERAGE PRICE: 000'S OF $ PER MWH
WAPINST	-	INSTRUMENT FO WAPWTU
WSPINST	-	WHOLESALE SALES: MWH

EXOGENOUS:

APDUM	-	DUMMY IN AVERAGE PRICE EQUATION
C	-	CONSTANT TERM
CCWTU	-	COMMERCIAL CUSTOMERS:NUMBER OF CUSTOMERS
CCDDINST	-	INSTRUMENT FOR COMMERCIAL COOLING DEGREE DAYS
CDDWTU	-	COOLING DEGREE DAYS:NUMBER OF DAYS
GCPPNU	-	GENERATION CAPABILITY OF PURCAHASED POWER FROM NON-UTILITY SOURCES:MWH
GCPLNTA	-	GENERATION CAPABILITY OF PLANT A:MWH
GCPLNTB	-	GENERATION CAPABILITY OF PLANT B:MWH
GCPLNTC	-	GENERATION CAPABILITY OF PLANT C:MWH
GCPLNTD	-	GENERATION CAPABILITY OF PLANT D:MWH
GCPLNTE	-	GENERATION CAPABILITY OF PLANT E:MWH
GNPD	-	GNP DEFLATOR
HDDWTU	-	HEATING DEGREE DAYS: NUMBER OF DAYS
ILFCSWTU	-	LOSS FACTOR: COMMERCIAL SALES
ILFISWTU	-	LOSS FACTOR: INDUSTRIAL SALES
ILFOSWTU	-	LOSS FACTOR: OTHER SALES
ILFRSWTU	-	LOSS FACTOR: RESIDENTIAL SALES
ILFWSWTU	-	LOSS FACTOR: WHOLESALE SALES
MATFCWTU	-	FOUR-QUARTER MOVING AVERAGE TOTAL FIXED COSTS:000'S OF DOLLARS AREA:000'S OF PERSONS
OSWTU	-	OTHER SALES:MWH

PNGIND	-	PRICE OF NATURAL GAS TO INDUSTRIAL CUSTOMERS: $ PER MCF
POPWTU	-	POPULATION IN WTU SERVICE AREA:000'S OF PERSONS
PPIF	-	PRODUCER PRICE INDEX: FINISHED GOODS
RCDDINST	-	INSTRUMENT FOR RESIDENTIAL COOLING DEGREE DAYS
RHDDINST	-	INSTRUMENT FOR RESIDENTIAL HEATING DEGREE DAYS
RPIWTU	-	REAL PERSONAL INCOME (BILLIONS OF DOLLARS)
UFCNG	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN NATURAL GAS PLANT: 000'S OF $
UFCPLNTA	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY: IN PLANT A :000'S OF $
UFCPLNTB	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY: IN PLANT B:000'S OF $
UFCPLNTC	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY: IN PLANT C:000'S OF $
UFCPLNTD	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY: IN PLANT D: 000'S OF $
UFCPLNTE	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY: IN PLANT E:000'S OF $
UFCPPNU	-	UNIT COST OF PURCHASED POWER FROM NON-UTILITY SOURCES:000'S OF $ PER MWH

IDENTITIES:

CAPINST	=	(CAPWTU(-1)/PPIF(-1))*CCWTU
IAPINST	=	IAPWTU/PNGIND
WAPINST	=	WAPWTU/GNPD
TSWTU	=	RSWTU+CSWTU+ISWTU+WSWTU+OSWTU
AQTWTU	=	QTWTU/TSWTU
AFCWTU	=	MATFCWTU/((TSWTU+TSWTU(-1)+TSWTU(-2)+TSWTU(-3))/4)
GENRWTU	=	RSWTU*ILFRSWTU+CSWTU*ILFCSWTU+ISWTU* ILFISWTU+WSWTU*ILFWSWTU+OSWTU*ILFWSWTU
PPNUC	=	GENRWTU-GCPPNU
PLNTAC	=	PPNUC-GCPLNTA
PLNTBC	=	PLNTAC-GCPLNTB
PLNTCC	=	PLNTBC-GCPLNTC
PLNTDC	=	PLNTCC-GCPLNTD
PLNTEC	=	PLNTDC-GCPLNTE
GRPPNU	=	(PPNUC>0)*GCPPNU+(PPNUC<0)*GENRWTU
VCPPNU	=	GRPPNU*UFCPPNU

GRPLNTA = (PPNUC>0)*((PLNTAC>0)*GCPLNTA+(PLNTAC<0)*PPNUC)

VCPLNTA = GRPLNTA*UFCPLNTA

GRPLNTB = (PPNUC>0)*(PLNTAC>0)*((PLNTBC>0)*GCPLNTB+(PLNTBC<0)*PLNTAC);

VCPLNTB = GRPLNTB*UFCPLNTB

GRPLNTC = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*((PLNTCC>0)*GCPLNTC+ (PLNTCC<0)*PLNTBC)

VCPLNTC = GRPLNTC*UFCPLNTC

GRPLNTD = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*((PLNTDC>0)* GCPLNTD+(PLNTDC<0)*PLNTCC)

VCPLNTD = GRPLNTD*UFCPLNTD

GRPLNTE = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*(PLNTDC>0)* ((PLNTEC>0)*GCPLNTE+ (PLNTEC<0)*PLNTDC)

VCPLNTE = GRPLNTE*UFCPLNTE

GRNG = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*(PLNTDC>0)* (PLNTEC>0)*PLNTEC

VCNG = GRNG*UFCNG

TVCWTU = VCPPNU+VCPLNTA+VCPLNTB+VCPLNTC+VCPLNTD+VCPLNTE+VCNG

EQUATION ESTIMATES

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 1: RETAIL SALES

RSWTU = a0 + a1*RSWTU(-4) + a2*RPIWTU + a3*RCDDINST + a4*RHDDINST

FINAL VALUE OF RHO	=	0.150923
STANDARD ERROR OF RHO	=	0.144194
T-STATISTIC FOR RHO	=	1.04666
SUM OF SQUARED RESIDUALS	=	0.906782E+10
STANDARD ERROR OF THE REGRESSION	=	14693.5
MEAN OF DEPENDENT VARIABLE	=	257504.
STANDARD DEVIATION	=	77791.8
R^2	=	0.967509
ADJUSTED R^2	=	0.964414
DURBIN-WATSON STATISTIC	=	1.9610

LOG OF LIKELIHOOD FUNCTION = -515.020

NUMBER OF OBSERVATIONS = 47

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-49304.	63090.	0.78150
RSWTU(-4)	0.68330	0.88169E-01	7.7499
RPIWTU	0.14810E+06	0.14888E+06	0.99482
RCDDINST	0.58150E-03	0.14625E-03	3.9762
RHDDINST	0.40439E-03	0.10550E-03	3.8333

2SLS ESTIMATION

EQUATION 2: COMMERCIAL SALES

CSWTU = b0 + b1*CSWTU(-4) + b2*CAPINST + b3*POPWTU + b4*CCDDINST + b5*CHDDINST

SUM OF SQUARED RESIDUALS = 0.288031E+10

STANDARD ERROR OF THE REGRESSION = 8381.61

MEAN OF DEPENDENT VARIABLE = 230382.

STANDARD DEVIATION = 41886.7

R^2 = 0.964312

ADJUSTED R^2 = 0.959959

DURBIN-WATSON STATISTIC = 2.0752

F-STATISTIC(5,41) = 221.566

NUMBER OF OBSERVATIONS = 47

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-97933.	70831.	-1.3826
CSWTU(-4)	0.73426	0.63694E-01	11.528
CAPINST	-11.298	15.343	-0.73636
POPWTU	356.53	210.06	1.6973
CCDDINST	0.10839E-02	0.30896E-03	3.5081
CHDDINST	0.53762E-03	0.22742E-03	2.3641

2SLS ESTIMATION

EQUATION 3: INDUSTRIAL SALES

ISWTU = c0 + c1*ISWTU(-1) + c2*IAPINST +c3POPWTU

SUM OF SQUARED RESIDUALS	=	0.575535E+10
STANDARD ERROR OF THE REGRESSION	=	11436.9
MEAN OF DEPENDENT VARIABLE	=	286554.
STANDARD DEVIATION	=	18594.3
R^2	=	0.645827
ADJUSTED R^2	=	0.621679
DURBIN-WATSON STATISTIC	=	1.8124
F-STATISTIC(3,44)	=	26.7444
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-12777.	54041.	-0.23644
ISWTU(-1)	0.73236	0.94538E-01	7.7468
IAPINST	-0.29240E+06	0.13285E+07	-0.22010
POPWTU	215.00	108.72	1.9776

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 4: WHOLESALE SALES

WSWTU = d0 + d1*WSWTU(-4) + d2*WAPINST + d3*POPWTU + d4*CDDWTU +d5*HDDWTU

FINAL VALUE OF RHO	=	0.713490
STANDARD ERROR OF RHO	=	0.103308
T-STATISTIC FOR RHO	=	6.90646
SUM OF SQUARED RESIDUALS	=	0.447691E+10
STANDARD ERROR OF THE REGRESSION	=	10579.4
MEAN OF DEPENDENT VARIABLE	=	94382.1
STANDARD DEVIATION	=	35449.8
R^2	=	0.920850
ADJUSTED R^2	=	0.910956
DURBIN-WATSON STATISTIC	=	1.9273
LOG OF LIKELIHOOD FUNCTION	=	-488.323
NUMBER OF OBSERVATIONS	=	46

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.48846E+06	0.24152E+06	-2.0225
WSWTU(-4)	0.25706	0.19499	1.3184
WAPINST	-0.12355E+07	0.88889E+06	-1.3900
POPWTU	1651.1	673.66	2.4510
CDDWTU	55.744	14.656	3.8036
HDDWTU	31.594	8.1729	3.8658

2SLS ESTIMATION

EQUATION 5: RESIDENTIAL PRICE

RAPWTU = e0 + e1*AQTWTU +e2*AFCWTU

SUM OF SQUARED RESIDUALS	=	0.449740E-03
STANDARD ERROR OF THE REGRESSION	=	0.316136E-02
MEAN OF DEPENDENT VARIABLE	=	0.640638E-01
STANDARD DEVIATION	=	0.146822E-01
R^2	=	0.955657
ADJUSTED R^2	=	0.953686
DURBIN-WATSON STATISTIC	=	2.1671
F-STATISTIC(2,45)	=	484.375
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.60214E-02	0.24906E-02	-2.4177
AQTWTU	0.98016	0.70792E-01	13.846
AFCWTU	1.9031	0.68474E-01	27.794

2SLS ESTIMATION

EQUATION 6: COMMERCIAL PRICE

CAPWTU = f0 + f1*AQTWTU + f2*AFCWTU

SUM OF SQUARED RESIDUALS	=	0.175714E-03
STANDARD ERROR OF THE REGRESSION	=	0.197605E-02
MEAN OF DEPENDENT VARIABLE	=	0.549988E-01
STANDARD DEVIATION	=	0.102866E-01
R^2	=	0.964758
ADJUSTED R^2	=	0.963192
DURBIN-WATSON STATISTIC	=	1.7803
F-STATISTIC(2,45)	=	614.320
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.16428E-02	0.15568E 02	1.0553
AQTWTU	1.0645	0.44249E-01	24.057
AFCWTU	1.0792	0.42800E-01	25.215

2SLS ESTIMATION

EQUATION 7: INDUSTRIAL PRICE

IAPWTU = g0 +g1*AQTWTU g2*AFCWTU

SUM OF SQUARED RESIDUALS	=	0.290055E-03
STANDARD ERROR OF THE REGRESSION	=	0.253883E-02
MEAN OF DEPENDENT VARIABLE	=	0.437897E-01
STANDARD DEVIATION	=	0.942104E-02
R^2	=	0.930723
ADJUSTED R^2	=	0.927644
DURBIN-WATSON STATISTIC	=	1.8615
F-STATISTIC(2,45)	=	301.092
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.42893E-02	0.20001E-02	-2.1445
AQTWTU	1.1745	0.56852E-01	20.658
AFCWTU	0.72255	0.54990E-01	13.140

2SLS

EQUATION 8: WHOLESALE PRICE

WAPWTU = h0 + h1*AQTWTU +h2*AFCWTU

SUM OF SQUARED RESIDUALS	=	0.329192E-03
STANDARD ERROR OF THE REGRESSION	=	0.270469E-02
MEAN OF DEPENDENT VARIABLE	=	0.360093E-01
STANDARD DEVIATION	=	0.814454E-02
R^2	=	0.894698
ADJUSTED R^2	=	0.890018
DURBIN-WATSON STATISTIC	=	2.0247
F-STATISTIC(2,45)	=	190.591
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.35116E-02	0.21308E-02	-1.6480
AQTWTU	1.0793	0.60566E-01	17.820
AFCWTU	0.46171	0.58583E-01	7.8813

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 9: TOTAL FUEL EXPENSE

QTWTU = i0 +i1*TVCWTU

FINAL VALUE OF RHO	=	0.469956
STANDARD ERROR OF RHO	=	0.128754
T-STATISTIC FOR RHO	=	3.65004
SUM OF SQUARED RESIDUALS	=	0.229891E+09
STANDARD ERROR OF THE REGRESSION	=	2285.78
MEAN OF DEPENDENT VARIABLE	=	18044.7
STANDARD DEVIATION	=	6816.50
R^2	=	0.890121
ADJUSTED R^2	=	0.887624
DURBIN-WATSON STATISTIC	=	1.7157
LOG OF LIKELIHOOD FUNCTION	=	-420.034

NUMBER OF OBSERVATIONS = 46

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	1018.1	1910.0	0.53303
TVCWTU	1.0152	0.55367E-01	18.337

A-10 EL PASO ELECTRIC COMPANY

MODEL: EPE

SYMBOL DECLARATIONS

ENDOGENOUS:

ACEPE	-	AVERAGE TOTAL COST: 000'S OF $ PER MWH
AFCEPE	-	AVERAGE FIXED COSTS:000'S OF $ PER MWH
AQTEPE	-	AVERAGE FUEL COSTS:000'S OF $ PER MWH
CAPEPEN	-	COMMERCIAL AVERAGE PRICE (NON-TEXAS):000'S OF $ PER MWH
CAPEPET	-	COMMERCIAL AVERAGE PRICE (TEXAS):000'S OF $ PER MWH
CAPINSN	-	INSTRUMENT FOR CAPEPEN
CAPINST	-	INSTRUMENT FOR CAPEPET
CSEPEN	-	COMMERCIAL SALES (NON-TEXAS):MWH
CSEPET	-	COMMERCIAL SALES (TEXAS):MWH PLANT:MWH
GENREPE	-	GENERATION REQUIREMENTS:MWH
GRNG	-	GENERATION REQUIREMENTS FROM NATURAL GAS
GRPLNTA	-	GENERATION REQUIREMENTS FROM PLANT A:MWH
GRPLNTB	-	GENERATION REQUIREMENTS FROM PLANT B:MWH
GRPLNTC	-	GENERATION REQUIREMENTS FROM PLANT C:MWH
GRPLNTD	-	GENERATION REQUIREMENTS FROM PLANT D:MWH
GRPLNTE	-	GENERATION REQUIREMENTS FROM PLANT E:MWH
GRPPNU	-	GENERATION REQUIREMENTS FROM PURCHASED POWER FROM NON-UTILITY SOURCES:MWH
IAPEPET	-	INDUSTRIAL AVERAGE PRICE (TEXAS):000'S OF $ PER MWH
IAPINST	-	INSTRUMENT FOR IAPEPET
ISEPET	-	INDUSTRIAL SALES (TEXAS ONLY):MWH
MAQTEPE	-	FOUR-QUARTER MOVING AVERAGE OF QTEPE:000'S OF$
MATSEPE	-	FOUR-QUARTER MOVING AVERAGE OF TSEPE;
PLNTAC	-	CONDITIONAL VARIABLE
PLNTBC	-	CONDITIONAL VARIABLE
PLNTCC	-	CONDITIONAL VARIABLE
PLNTDC	-	CONDITIONAL VARIABLE
PPNTEC	-	CONDITIONAL VARIABLE

PPNUC	-	CONDITIONAL VARIABLE
QTEPE	-	TOTAL FUEL EXPENSE ESTIMATE:000'S OF $
RAPEPEN	-	RESIDENTIAL AVERAGE PRICE (NON-TEXAS):000'S OF $ PER MWH
RAPEPET	-	RESIDENTIAL AVERAGE PRICE (TEXAS):000'S OF $ PER MWH
RAPINSN	-	INSTRUMENT FOR RAPEPEN
RAPINST	-	INSTRUMENT FOR RAPEPET
RSEPEN	-	RESIDENTIAL SALES (NON-TEXAS):MWH
RSEPET	-	RESIDENTIAL SALES (TEXAS):MWH
TSEPE	-	TOTAL SYSTEM SALES:MWH
TSEPEN	-	TOTAL NON-TEXAS SALES:MWH
TSEPET	-	TOTAL TEXAS SALES:MWH
TVCEPE	-	ADJUSTED TOTAL VARIABLE COST:
TVCEPE1	-	TOTAL VARIABLE COST:000'S OF $
TVCEPE2	-	TOTAL VARIABLE COST INCLUDING TOTAL COST OF PURCHASED POWER:000'S OF $ 000'S OF $
VCNG	-	NATURAL GAS COST:000'S OF $
VCPLNTA	-	VARIABLE COST FOR PLANT A:000'S OF $
VCPLNTB	-	VARIABLE COST FOR PLANT B:000'S OF $
VCPLNTC	-	VARIABLE COST FOR PLANT C:000'S OF $
VCPLNTD	-	VARIABLE COST FOR PLANT D:000'S OF $
VCPLNTE	-	VARIABLE COST FOR PLANT E:000'S OF $
VCPPNU	-	PURCHASED POWER COST FROM NON-UTILITY SOURCES: 000'S OF $

EXOGENOUS:

C	-	CONSTANT TERM
CCDDINST	-	INSTRUMENT FOR (TEXAS) COMMERCIAL COOLING DEGREE DAYS
CCDDINSN	-	INSTRUMENT FOR (NON-TEXAS) COMMERCIAL COOLING DEGREE DAYS
CCEPEN	-	COMMERCIAL CUSTOMERS (NON-TEXAS):NUMBER OF CUSTOMERS
CCEPET	-	COMMERCIAL CUSTOMERS (TEXAS):NUMBER OF CUSTOMERS
CDDEPE	-	COOLING DEGREE DAYS:NUMBER OF DAYS
CHDDINST	-	INSTRUMENT FOR (TEXAS) COMMERCIAL HEATING DEGREE DAYS
CPITX	-	TEXAS CONSUMER PRICE INDEX
FCPPEPE	-	FIXED COMPONENT OF PURCHASED POWER COST:000'S OF $
GCPLNTA	-	GENERATION CAPABILITY OF PLANT A: MWH
GCPLNTB	-	GENERATION CAPABILITY OF PLANT B: MWH

GCPLNTC	-	GENERATION CAPABILITY OF PLANT C: MWH
GCPLNTD	-	GENERATION CAPABILITY OF PLANT D: MWH
GCPLNTE	-	GENERATION CAPABILITY OF PLANT E: MWH
GCPPNU	-	GENERATION CAPABILITY OF PURCHASED POWER FROM NON-UTILITY SOURCES: MWH
ILFCSEPE	-	LOSS FACTOR: COMMERCIAL SALES
ILFISEPE	-	LOSS FACTOR: INDUSTRIAL SALES
ILFOSEPE	-	LOSS FACTOR: OTHER SALES
ILFRSEPE	-	LOSS FACTOR: RESIDENTIAL SALES
ILFWSEPE	-	LOSS FACTOR: WHOLESALE SALES
ISEPENC	-	INDUSTRIAL SALES (NON-TEXAS):MWH
ISEPETD1	-	DUMMY 1 FOR INDUSTRIAL SALES
ISEPETD2	-	DUMMY 2 FOR INDUSTRIAL SALES
MATFCEPE	-	FOUR QUARTER MOVING AVERAGE OF TOTAL FIXED COST: 000'S OF $
NAGEPEN	-	SERVICE AREA NON-AGRICULTURAL EMPLOYMENT
NAGEPET	-	SERVICE AREA NON-AGRICULTURAL EMPLOYMENT (TEXAS):THOUSANDS OF PERSONS (NON-TEXAS): THOUSANDS OF PERSONS
OSEPENC	-	OTHER SALES (NON-TEXAS):MWH
OSEPETC	-	OTHER SALES (TEXAS):MWH
PNGCOM	-	PRICE OF NATURAL GAS TO COMMERCIAL CUSTOMERS:$ PER MCF
PNGIND	-	PRICE OF NATURAL GAS TO INDUSTRIAL CUSTOMERS:$ PER MWH
POPEPET	-	SERVICE AREA POPULATION (TEXAS):THOUSANDS OF PERSONS
RCDDINSN	-	INSTRUMENT FOR (NON-TEXAS) RESIDENTIAL COOLING DEGREE DAYS
RCDDINST	-	INSTRUMENT FOR (TEXAS) RESIDENTIAL COOLING DEGREE DAYS
RCEPEN	-	RESIDENTIAL CUSTOMERS (NON-TEXAS):NUMBER OF CUSTOMERS
RCEPET	-	RESIDENTIAL CUSTOMERS (TEXAS):NUMBER OF CUSTOMERS
RHDDINSN	-	INSTRUMENT FOR (NON-TEXAS) RESIDENTIAL HEATING DEGREE DAYS
RHDDINST	-	INSTRUMENT FOR (TEXAS) RESIDENTIAL HEATING DEGREE DAYS
RPIEPEN	-	SERVICE AREA REAL PERSONAL INCOME (NON-TEXAS):BILLIONS OF $
RPIEPET	-	SERVICE AREA REAL PERSONAL INCOME (TEXAS):BILLIONS OF $
UFCNG	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN NATURAL GAS PLANTS: 000'S OF $
UFCPLNTA	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT A: 000'S OF $ PER MWH
UFCPLNTB	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT B: 000'S OF $ PER MWH

UFCPLNTC - FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT C: 000'S OF $ PER MWH

UFCPLNTD - FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT D: 000'S OF $ PER MWH

UFCPLNTE - FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT E: 000'S OF $ PER MWH

UFCPPNU - UNIT COST OF PURCHASED POWER FRON NON-UTILITY SOURCES: 000'S OF $ PER MWH

WSEPENC - WHOLESALE SALE (NON-TEXAS):MWH

WSEPETC - WHOLESALE SALE (TEXAS):MWH

IDENTITIES

RAPINST = (RAPEPET(-4)/CPITX(-4))*RCEPET

CAPINST = (CAPEPET(-1)/PNGCOM(-1))*CCEPET

IAPINST = IAPEPET/PNGIND

RAPINSN = (RAPEPEN(-2)/CPITX(-2))*RCEPEN

CAPINSN = (CAPEPEN/PNGCOM)*CCEPEN

TSEPET = RSEPET+CSEPET+ISEPET+WSEPETC+OSEPETC

TSEPEN = RSEPEN+CSEPEN+ISEPENC+WSEPENC+OSEPENC

TSEPE = TSEPET+TSEPEN

MATSEPE = (TSEPE+TSEPE(-1)+TSEPE(-2)+TSEPE(-3))/4

AFCEPE = MATFCEPE/MATSEPE

MAQTEPE = (QTEPE+QTEPE(-1)+QTEPE(-2)+QTEPE(-3))/4

AQTEPE = MAQTEPE/MATSEPE

ACEPE = AQTEPE+AFCEPE

GENREPE = (RSEPET+RSEPEN)*ILFRSEPE+(CSEPET+CSEPEN)*ILFCSEPE+ (ISEPET+ISEPENC)*ILFISEPE+(WSEPETC+WSEPENC)*ILFWSEPE+ (OSEPETC+OSEPENC)*ILFOSEPE

PPNUC = GENREPE-GCPPNU

PLNTAC = PPNUC-GCPLNTA

PLNTBC = PLNTAC-GCPLNTB

PLNTCC = PLNTBC-GCPLNTC

PLNTDC = PLNTCC-GCPLNTD

PLNTEC = PLNTDC-GCPLNTE

GRPPNU = (PPNUC>0)*GCPPNU+(PPNUC<0)*GENREPE

VCPPNU = GRPPNU*UFCPPNU

GRPLNTA = (PPNUC>0)*((PLNTAC>0)*GCPLNTA+(PLNTAC<0)*PPNUC)

VCPLNTA = GRPLNTA*UFCPLNTA

GRPLNTB = (PPNUC>0)*(PLNTAC>0)*((PLNTBC>0)*GCPLNTB+(PLNTBC<0)*PLNTAC)

VCPLNTB = GRPLNTB*UFCPLNTB

GRPLNTC = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*((PLNTCC>0)*GCPLNTC+ (PLNTCC<0)*PLNTBC)

VCPLNTC = GRPLNTC*UFCPLNTC

GRPLNTD = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*((PLNTDC>0)* GCPLNTD+(PLNTDC<0)*PLNTCC)

VCPLNTD = GRPLNTD*UFCPLNTD

GRPLNTE = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*(PLNTDC>0)* ((PLNTEC>0)*GCPLNTE+(PLNTEC<0)* PLNTDC)

VCPLNTE = GRPLNTE*UFCPLNTE

GRNG = (PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*(PLNTDC>0)* (PLNTEC>0)*PLNTEC

VCNG = GRNG*UFCNG

TVCEPE1 = VCPPNU+VCPLNTA+VCPLNTB+VCPLNTC+VCPLNTD+VCPLNTE+VCNG

TVCEPE2 = TVCEPE1+FCPPEPE

TVCEPE = 1.4*TVCEPE2

EQUATION ESTIMATES

2SLS ESTIMATION

EQUATION 1: TEXAS RESIDENTIAL SALES

RSEPET = a0 + a1*RSEPET(-1) + a2*RAPINST + a3*RPIEPET + a4*RCDDINST + a5*RHDDINST

SUM OF SQUARED RESIDUALS	=	0.789537E+10
STANDARD ERROR OF THE REGRESSION	=	13710.8
MEAN OF DEPENDENT VARIABLE	=	205954.
STANDARD DEVIATION	=	34463.5
R^2	=	0.869151
ADJUSTED R^2	=	0.853573
DURBIN-WATSON STATISTIC	=	1.4219
F-STATISTIC	=	50.9915
NUMBER OF OBSERVATIONS	=	48

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.15938E+06	50618.	-3.1486
RSEPET(-1)	-0.81186	0.41644	-1.9495
RAPINST	-9.7759	4.5536	-2.1468
RPIEPET	0.12739E+07	0.40212E+06	3.1679
RCDDINST	0.39347E-03	0.17290E-03	2.2757
RHDDINST	0.29144E-03	0.98565E-04	2.9568

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 2: NON-TEXAS RESIDENTIAL SALES

RSEPEN = b0 + b1*RSEPEN(-1) + b2*RAPINSN + b3*RPIEPEN + b4*RCDDINSN + b5*RHDDINSN

FINAL VALUE OF RHO	=	-0.967926
STANDARD ERROR OF RHO	=	0.370429E-01
T-STATISTIC FOR RHO	=	-26.1298
SUM OF SQUARED RESIDUALS	=	0.978315E+08
STANDARD ERROR OF THE REGRESSION	=	1563.90
MEAN OF DEPENDENT VARIABLE	=	118414.
STANDARD DEVIATION	=	14564.8
R^2	=	0.989752
ADJUSTED R^2	=	0.988471
DURBIN-WATSON STATISTIC	=	1.5650
LOG OF LIKELIHOOD FUNCTION	=	-400.384
NUMBER OF OBSERVATIONS	=	46

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-3185.8	1711.9	-1.8610
RSEPEN(-1)	0.57246	0.52186E-01	10.969
RAPINSN	-4.2432	1.6060	-2.6421
RPIEPEN	0.14229E+06	33177.	4.2887
RCDDINSN	0.32149E-03	0.39590E-04	8.1203
RHDDINSN	0.29006E-03	0.32433E-04	8.9434

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 3: TEXAS COMMERCIAL SALES

CSEPET = c0 + c1*CSEPET(-1) + c2*NAGEPET + c3*CCDDINST + c4*CHDDINST

FINAL VALUE OF RHO	=	0.144228
STANDARD ERROR OF RHO	=	0.144340
T-STATISTIC FOR RHO	=	0.999228
SUM OF SQUARED RESIDUALS	=	0.204212E+10
STANDARD ERROR OF THE REGRESSION	=	6972.94
MEAN OF DEPENDENT VARIABLE	=	205420.
STANDARD DEVIATION	=	43688.7
R^2	=	0.976741
ADJUSTED R^2	=	0.974526
DURBIN-WATSON STATISTIC	=	2.0922
LOG OF LIKELIHOOD FUNCTION	=	-479.987
NUMBER OF OBSERVATIONS	=	47

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.13402E+06	15523.	-8.6331
CSEPET(-1)	0.30862	0.34263E-01	9.0074
NAGEPET	1427.9	117.13	12.192
CCDDINST	0.56136E-02	0.32410E-03	17.321
CHDDINST	0.10550E-02	0.28678E-03	3.678

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 4: NON-TEXAS COMMERCIAL SALES

CSEPEN = d0 + d1*CSEPEN(-1) + d2*CAPINSN + d3*NAGEPEN + d4*CCDDINSN

FINAL VALUE OF RHO	=	-0.231293
STANDARD ERROR OF RHO	=	0.143444
T-STATISTIC FOR RHO	=	-1.61243
SUM OF SQUARED RESIDUALS	=	0.125595E+09
STANDARD ERROR OF THE REGRESSION	=	1750.23
MEAN OF DEPENDENT VARIABLE	=	62844.3
STANDARD DEVIATION	=	11948.5
R^2	=	0.980452
ADJUSTED R^2	=	0.978545
DURBIN-WATSON STATISTIC	=	1.9627
LOG OF LIKELIHOOD FUNCTION	=	-406.130
NUMBER OF OBSERVATIONS	=	46

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-31102.	3350.4	-9.2830
CSEPEN(-1)	0.18919	0.38180E-01	4.9552
CAPINSN	-89.091	18.836	-4.7298
NAGEPEN	1367.9	107.87	12.681
CHDDINSN	0.26450E-02	0.10477E-03	25.245

2SLS ESTIMATION

EQUATION 5: TEXAS INDUSTRIAL SALES

ISEPET = e0 + e1*ISEPET(-1) + e2*IAPINST(-1) + e3*POPEPET + e4*CDDEPE + ES*ISEPETD1 + EG*ISEPETD2

SUM OF SQUARED RESIDUALS	=	0.236375E+10
STANDARD ERROR OF THE REGRESSION	=	13814.5
MEAN OF DEPENDENT VARIABLE	=	165108.
STANDARD DEVIATION	=	13814.5
R^2	=	0.716949
ADJUSTED R^2	=	0.671049
DURBIN-WATSON STATISTIC	=	2.3884
F-STATISTIC (6,37)	=	15.2417
E'HH'E	=	.252576E+09
NUMBER OF OBSERVATIONS	=	44

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.10954E+06	48578	2.2549
ISEPET(-1)	0.29910	0.26639	1.1228
IAPINST(-1)	-0.66539E+06	0.65504E+06	-1.0158
POPEPET	26.301	41.549	0.63300
CDDEPE	5.8794	2.3481	2.5039
ISEPETD1	-15382	7122.2	-2.1597
ISEPETD2	19355	8194.4	2.3620

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 6: TEXAS RESIDENTIAL AVERAGE PRICE

RAPEPET = f0 + f1*ACEPE

FINAL VALUE OF RHO	=	0.491999
STANDARD ERROR OF RHO	=	0.172760
T-STATISTIC FOR RHO	=	2.84788
SUM OF SQUARED RESIDUALS	=	0.338443E-03
STANDARD ERROR OF THE REGRESSION	=	0.360791E-02
MEAN OF DEPENDENT VARIABLE	=	0.454716E-01
STANDARD DEVIATION	=	0.821388E-02
R^2	=	0.815189
ADJUSTED R^2	=	0.808081
DURBIN-WATSON STATISTIC	=	2.1907
LOG OF LIKELIHOOD FUNCTION	=	118.658
NUMBER OF OBSERVATIONS	=	28

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.16936E-01	0.56534E-02	2.9958
ACEPE	1.0453	0.82829E-01	12.620

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 7: NON-TEXAS RESIDENTIAL AVERAGE PRICE

RAPEPEN = g0 + g1*ACEPE

FINAL VALUE OF RHO	=	0.423493
STANDARD ERROR OF RHO	=	0.171199
T-STATISTIC FOR RHO	=	2.47369
SUM OF SQUARED RESIDUALS	=	0.497037E-03
STANDARD ERROR OF THE REGRESSION	=	0.445887E-02
MEAN OF DEPENDENT VARIABLE	=	0.466210E-01
STANDARD DEVIATION	=	0.106234E-01
R^2	=	0.830811
ADJUSTED R^2	=	0.824043

DURBIN-WATSON STATISTIC = 1.5662

LOG OF LIKELIHOOD FUNCTION = 108.875

NUMBER OF OBSERVATIONS = 27

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.11482E-02	0.73266E-02	0.15672
ACEPE	1.1623	0.10459	11.113

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 8: TEXAS COMMERCIAL AVERAGE PRICE

CAPEPET = h0 + h1*ACEPE

FINAL VALUE OF RHO = 0.382149

STANDARD ERROR OF RHO = 0.179908

T-STATISTIC FOR RHO = 2.12414

SUM OF SQUARED RESIDUALS = 0.804850E-03

STANDARD ERROR OF THE REGRESSION = 0.556379E-02

MEAN OF DEPENDENT VARIABLE = 0.484049E-01

STANDARD DEVIATION = 0.100996E-01

R^2 = 0.708296

ADJUSTED R^2 = 0.697076

DURBIN-WATSON STATISTIC = 1.7370

LOG OF LIKELIHOOD FUNCTION = 106.590

NUMBER OF OBSERVATIONS = 28

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.15112E-01	0.73046E-02	0.73046E-02
ACEPE	0.92642	0.10715	0.10715

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 9: NON-TEXAS COMMERCIAL AVERAGE PRICE

CAPEPEN = i0 + i1*ACEPE

FINAL VALUE OF RHO	=	0.509704
STANDARD ERROR OF RHO	=	0.165574
T-STATISTIC FOR RHO	=	3.07840
SUM OF SQUARED RESIDUALS	=	0.431953E-03
STANDARD ERROR OF THE REGRESSION	=	0.415670E-02
MEAN OF DEPENDENT VARIABLE	=	0.359220E-01
STANDARD DEVIATION	=	0.633123E-02
R^2	=	0.586029
ADJUSTED R^2	=	0.569470
DURBIN-WATSON STATISTIC	=	1.4904
LOG OF LIKELIHOOD FUNCTION	=	110.770
NUMBER OF OBSERVATIONS	=	27

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.27759E-01	0.81390E-02	3.4106
ACEPE	0.65854	0.11539	5.7071

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 10: TEXAS INDUSTRIAL AVERAGE PRICE

IAPEPET = j0 + j1*ACEPE

FINAL VALUE OF RHO	=	0.698740
STANDARD ERROR OF RHO	=	0.124035
T-STATISTIC FOR RHO	=	5.63339
SUM OF SQUARED RESIDUALS	=	0.185467E-03

STANDARD ERROR OF THE REGRESSION	=	0.248641E-02
MEAN OF DEPENDENT VARIABLE	=	0.182768E-01
STANDARD DEVIATION	=	0.397576E-02
R^2	=	0.622261
ADJUSTED R^2	=	0.609670
DURBIN-WATSON STATISTIC	=	1.8785
LOG OF LIKELIHOOD FUNCTION	=	147.193
NUMBER OF OBSERVATIONS	=	32

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.18693E-01	0.62056E-02	3.0123
ACEPE	0.56494	0.88344E-01	6.3949

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 11: TOTAL FUEL EXPENSE & PURCHASED POWER COST

QTEPE = k0 + k1*TVCEPE

FINAL VALUE OF RHO	=	0.308124
STANDARD ERROR OF RHO	=	0.138768
T-STATISTIC FOR RHO	=	2.22043
SUM OF SQUARED RESIDUALS	=	0.261459E+09
STANDARD ERROR OF THE REGRESSION	=	2437.67
MEAN OF DEPENDENT VARIABLE	=	17991.1
STANDARD DEVIATION	=	4358.93
R^2	=	0.694973
ADJUSTED R^2	=	0.688041
DURBIN-WATSON STATISTIC	=	2.0284
LOG OF LIKELIHOOD FUNCTION	=	-422.994
NUMBER OF OBSERVATIONS	=	46

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	7168.7	2757.1	2.6001
TVCEPE	0.66023	0.94916E-01	6.9559

A-11 TEXAS NEW-MEXICO POWER COMPANY

MODEL: TNP

SYMBOL DECLARATIONS

ENDOGENOUS:

AFCTNP	-	AVERAGE FIXED COSTS:000'S PER MWH
AQTTNP	-	AVERAGE FUEL EXPENSES AND PURCHASED POWER COSTS: PER MWH
CAPINSO	-	INSTRUMENT FOR CAPTNP (TNP NON-SOUTH)
CAPINSS	-	INSTRUMENT FOR CAPTNP (TNP SOUTH)
CAPTNP	-	COMMERCIAL AVERAGE PRICE:000'S OF $ PER MWH
CSTNPO	-	COMMERCIAL SALES (TNP NON-SOUTH):MWH
CSTNPS	-	COMMERCIAL SALES (TNP SOUTH):MWH
GENRTNP	-	GENERATION REQUIREMENTS:MWH
GRLI	-	GENERATION REQUIREMENT FROM LIGNITE PLANTS:MWH
GRPPNU	-	GENERATION REQUIREMENTS FROM PURCHASED POWER FROM NON-UTILITY SOURCES:MWH
GRPPU	-	GENERATION REQUIREMENTS FROM PURCHASED POWER FROM UTILITY SOURCES:MWH
IAPTNP	-	INDUSTRIAL AVERAGE PRICE:000'S OF $ PER MWH
LIC	-	CONDITIONAL VARIABLE
MATSTNP	-	FOUR-QUARTER MOVING AVERAGE OF TOTAL SALES
PPNUC	-	CONDITIONAL VARIABLE
QTTNP	-	TOTAL FUEL EXPENSE AND PURCHASED POWER COST ESTIMATE: 000'S OF $
RAPINSO	-	INSTRUMENT FOR RAPTNP (TNP NON-SOUTH)
RAPINSS	-	INSTRUMENT FOR RAPTNP (TNP SOUTH)
RAPTNP	-	RESIDENTIAL AVERAGE PRICE:000'S OF $ PER MWH
RSTNPO	-	RESIDENTIAL SALES (TNP NON-SOUTH):MWH
RSTNPS	-	RESIDENTIAL SALES (TNP SOUTH):MWH
TSTNP	-	TOTAL SYSTEM SALES:MWH
TVCTNP	-	TOTAL FUEL AND PURCHASED POWER EXPENSE REQUIREMENTS: 000'S OF $
VCLI	-	LIGNITE COST:000'S OF $

VCPPNU - PURCHASED POWER COST FROM NON-UTILITY SOURCES: 000'S OF $

VCPPU - PURCHASED POWER COST FROM UTILITY SOURCES:000'S OF $

EXOGENOUS:

C - CONSTANT TERM

CCDDINSO - INSTRUMENT FOR (TNP NON-SOUTH) COMMERCIAL COOLING DEGREE DAYS

CCDDINSS - INSTRUMENT FOR (TNP SOUTH) COMMERCIAL COOLING DEGREE DAYS

CCTNPO - COMMERCIAL CUSTOMERS (TNP NON-SOUTH):NUMBER OF CUSTOMERS

CCTNPS - COMMERCIAL CUSTOMERS (TNP SOUTH):NUMBER OF CUSTOMERS

CPITX - TEXAS CONSUMER PRICE INDEX

GCLI - GENERATION CAPABILITY OF LIGNITE PLANTS:MWH

GCPPNU - GENERATION CAPABILITY OF PURCHASED POWER FROM NON-UTILITY SOURCES:MWH

ILFCSTNP - LOSS FACTOR:COMMERCIAL SALES

ILFISTNP - LOSS FACTOR:INDUSTRIAL SALES

ILFOSTNP - LOSS FACTOR:OTHER SALES

ILFRSTNP - LOSS FACTOR:RESIDENTIAL SALES

ILFWSTNP - LOSS FACTOR:WHOLESALE SALES

ISTNP - INDUSTRIAL SALES:MWH

MATFCTNP - FOUR QUARTER MOVING AVERAGE OF TOTAL FIXED COSTS: 000'S OF $

OSTNP - OTHER SALES:MWH

PNGCOM - PRICE OF NATURAL GAS TO COMMERCIAL CUSTOMERS: $ PER MCF

PNGRES - PRICE OF NATURAL GAS TO RESIDENTIAL CUSTOMERS: $ PER MCF

POPTNPO - TNP NON-SOUTH POPULATION DATA:000'S OF PERSONS

POPTNPS - TNP SOUTH POPULATION DATA:000'S OF PERSONS

PPIIF - PRODUCER PRICE INDEX:FINISHED GOODS

RCDDINSO - INSTRUMENT FOR (TNP NON-SOUTH) RESIDENTIAL COOLING DEGREE DAYS

RCDDINSS - INSTRUMENT FOR (TNP SOUTH) RESIDENTIAL COOLING DEGREE DAYS

RCTNPO - RESIDENTIAL CUSTOMERS (TNP NON-SOUTH):NUMBER OF CUSTOMERS

RCTNPS	-	RESIDENTIAL CUSTOMERS (TNP SOUTH):NUMBER OF CUSTOMERS
RHDDINSO	-	INSTRUMENT FOR (TNP NON-SOUTH) RESIDENTIAL HEATING DEGREE DAYS
RHDDINSS	-	INSTRUMENT FOR (TNP SOUTH) RESIDENTIAL HEATING DEGREE DAYS
RPITNPO	-	REAL TNP NON-SOUTH PERSONAL INCOME(BILLIONS OF $)
RPITNPS	-	REAL TNP SOUTH PERSONAL INCOME(BILLIONS OF $)
UFCLI	-	FUEL COST TO PRODUCE ONE KWH OF ELECTRICITY IN LIGNITE PLANT:000'S OF $
UFCPPU	-	UNIT COST OF PURCHASED POWER FROM PUBLIC UTILITY SOURCES:000'S OF $ PER MWH
UFCPPNU	-	UNIT COST OF PURCHASED POWER FROM NON-UTILITY SOURCES: 000'S OF $ PER MWH
WSTNP	-	WHOLESALE SALES:MWH

IDENTITIES

RAPINSO	=	(RAPTNP(-1)/PNGRES(-1))*RCTNPO
RAPINSS	=	(RAPTNP(-2)/CPITX(-2))*RCTNPS
CAPINSO	=	(CAPTNP(-3)/PNGCOM(-3))*CCTNPO
CAPINSS	=	(CAPTNP/PPIF)*CCTNPS
TSTNP	=	RSTNPO+RSTNPS+CSTNPO+CSTNPS+ISTNP+WSTNP+OSTNP
MATSTNP	=	(TSTNP+TSTNP(-1)+TSTNP(-2)+TSTNP(-3))/4
AFCTNP	=	MATFCTNP/MATSTNP
AQTTNP	=	QTTNP/TSTNP
GENRTNP	=	(RSTNPO+RSTNPS)*ILFRSTNP+(CSTNPO+CSTNPS)*ILFCSTNP+ ISTNP*ILFISTNP+WSTNP*ILFWSTNP+OSTNP*ILFOSTNP
PPNUC	=	GENRTNP-GCPPNU
LIC	=	PPNUC-GCLI
GRPPNU	=	(PPNUC>0)*GCPPNU+(PPNUC<0)*GENRTNP
VCPPNU	=	GRPPNU*UFCPPNU
GRLI	=	(PPNUC>0)*((LIC>0)*GCLI+(LIC<0)*PPNUC)
VCLI	=	GRLI*UFCLI
GRPPU	=	(PPNUC>0)*(LIC>0)*LIC
VCPPU	=	GRPPU*UFCPPU
TVCTNP	=	VCPPNU+VCLI+VCPPU

EQUATION ESTIMATES

2SLS ESTIMATION

EQUATION 1: TNP NON-SOUTH RESIDENTIAL SALES

RSTNPO = A0 + A1*RSTNPO(-4) + A2*RAPINSO + A3*RPITNPO + A4*RCDDINSO + A5*RHDDINSO

SUM OF SQUARED RESIDUALS	=	0.507548E+10
STANDARD ERROR OF THE REGRESSION	=	11557.0
MEAN OF DEPENDENT VARIABLE	=	153975.
STANDARD DEVIATION	=	45394.3
R^2	=	0.942723
ADJUSTED R^2	=	0.935186
DURBIN-WATSON STATISTIC	=	1.9269
F-STATISTIC	=	125.080
NUMBER OF OBSERVATIONS	=	44

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-6422.0	24651.	-0.26052
RSTNPO(-4)	0.7701	0.92046E-01	8.3671
RAPINSO	-52.608	43.587	-1.2070
RPITNPO	0.30224E+06	0.10601E+06	2.8511
RCDDINSO	0.19661E-03	0.58599E-04	3.3552
RHDDINSO	0.52702E-04	0.18285E-04	2.8822

2SLS ESTIMATION

EQUATION 2: TNP SOUTH RESIDENTIAL SALES

RSTNPS = b0 + b1*RAPINSS + b2*RPITNPS + b3*RCDDINSS + b4*RHDDINSS

SUM OF SQUARED RESIDUALS	=	0.222459E+11
STANDARD ERROR OF THE REGRESSION	=	23883.2
MEAN OF DEPENDENT VARIABLE	=	217046.
STANDARD DEVIATION	=	60711.4
R^2	=	0.859641
ADJUSTED R^2	=	0.845246
DURBIN-WATSON STATISTIC	=	1.9864
F-STATISTIC	=	59.7147
NUMBER OF OBSERVATIONS	=	44

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.17159E+06	73805.	-2.3249
RAPINSS	-24.357	18.060	--1.3487
RPITNPS	0.20639E+07	0.50879E+06	4.0565
RCDDINSS	0.34811E-02	0.28915E-03	12.039
RHDDINSS	0.88731E-03	0.22610E-03	3.9244

2SLS ESTIMATION

EQUATION 3:TNP NON-SOUTH COMMERCIAL SAES

CSTNPO = c0 + c1*CSTNPO(-1) + c2*CAPINSO + c3*POPTNPO + c4*CCDDINSO

SUM OF SQUARED RESIDUALS	=	0.175602E+10
STANDARD ERROR OF THE REGRESSION	=	6625.74
MEAN OF DEPENDENT VARIABLE	=	133837.
STANDARD DEVIATION	=	28421.3
R^2	=	0.950595
ADJUSTED R^2	=	0.945654
DURBIN-WATSON STATISTIC	=	1.9669
F-STATISTIC	=	192.400

NUMBER OF OBSERVATIONS = 45

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.15762E+06	16213.	-9.7218
CSTNPO(-1)	-0.97396E-01	0.46035E-01	-2.1157
CAPINSO	-96.224	72.667	-1.3242
POPTNPO	1424.1	129.42	11.004
CCDDINSO	0.11917E-02	0.59408E-04	20.059

2SLS ESTIMATION

EQUATION 4: TNP SOUTH COMMERCIAL SALES

CSTNPS = d0 + d1*CAPINSS + d2*POPTNPS + d3*CCDDINSS

SUM OF SQUARED RESIDUALS	=	0.251708E+10
STANDARD ERROR OF THE REGRESSION	=	7835.32
MEAN OF DEPENDENT VARIABLE	=	122282.
STANDARD DEVIATION	=	19467.1
R^2	=	0.850516
ADJUSTED R^2	=	0.839578
DURBIN-WATSON STATISTIC	=	1.6850
F-STATISTIC	=	76.8691
NUMBER OF OBSERVATIONS	=	45

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.35636E+06	58151.	--6.1281
CAPINSS	-151.53	37.804	-4.0082
POPTNPS	3690.5	510.43	7.2301
CCDDINSS	0.60994E-02	0.54609E-03	11.169

2SLS ESTIMATION

EQUATION 5: RESIDENTIAL AVERAGE PRICE

RAPTNP = e0 + e1*AQTTNP + e2*AFCTNP

SUM OF SQUARED RESIDUALS	=	0.293734E-03
STANDARD ERROR OF THE REGRESSION	=	0.264455E-02
MEAN OF DEPENDENT VARIABLE	=	0.675579E-01
STANDARD DEVIATION	=	0.143256E-01
R^2	=	0.967656
ADJUSTED R^2	=	0.966115
DURBIN-WATSON STATISTIC	=	1.6779
F-STATISTIC	=	624.574
NUMBER OF OBSERVATIONS	=	45

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.41484E-02	0.20929E-02	-1.9822
AQTTNP	1.3178	0.54412E-01	24.218
AFCTNP	0.60728	0.63730E-01	9.5289

2SLS ESTIMATION

EQUATION 6: COMMERCIAL AVERAGE PRICE

CAPTNP = f0 + f1*AGTTNP + f2*AFCTNP

SUM OF SQUARED RESIDUALS	=	0.100607E-03
STANDARD ERROR OF THE REGRESSION	=	0.154771E-02
MEAN OF DEPENDENT VARIABLE	=	0.628794E-01
STANDARD DEVIATION	=	0.117585E-01
R^2	=	0.983663

ADJUSTED R^2	=	0.982885
DURBIN-WATSON STATISTIC	=	1.6756
F-STATISTIC	=	1248.83
NUMBER OF OBSERVATIONS	=	45

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.41965E-02	0.12249E-02	3.4261
AQTTNP	1.2114	0.31844E-01	38.041
AFCTNP	0.28726	0.37298E-01	7.7017

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 7: INDUSTRIAL AVERAGE PRICE

IAPTNP = g0 + g1*AQTTNP + g2*AFCTNP

FINAL VALUE OF RHO	=	0.248664
STANDARD ERROR OF RHO	=	0.149261
T-STATISTIC FOR RHO	=	1.66597
SUM OF SQUARED RESIDUALS	=	0.564481E-04
STANDARD ERROR OF THE REGRESSION	=	0.117336E-02
MEAN OF DEPENDENT VARIABLE	=	0.335172E-01
STANDARD DEVIATION	=	0.628588E-02
R^2	=	0.966956
ADJUSTED R^2	=	0.965344
DURBIN-WATSON STATISTIC	=	1.9374
LOG OF LIKELIHOOD FUNCTION	=	235.995
NUMBER OF OBSERVATIONS	=	44

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.16684E-02	0.12577E-02	1.3265
AQTTNP	0.87786	0.30784E-01	28.516
AFCTNP	0.19437	0.36794E-01	5.2827

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 8: TOTAL FUEL EXPENSE & PURCHASED POWER COST

QTTNP = H0 + H1*TVCTNP

FINAL VALUE OF RHO	=	0.416337
STANDARD ERROR OF RHO	=	0.140025
T-STATISTIC FOR RHO	=	2.97331
SUM OF SQUARED RESIDUALS	=	0.907824E+09
STANDARD ERROR OF THE REGRESSION	=	4649.18
MEAN OF DEPENDENT VARIABLE	=	30295.1
STANDARD DEVIATION	=	10636.1
R^2	=	0.813454
ADJUSTED R^2	=	0.809013
DURBIN-WATSON STATISTIC	=	2.2654
LOG OF LIKELIHOOD FUNCTION	=	-433.061
NUMBER OF OBSERVATIONS	=	44

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	3806.5	3523.7	1.0803
TVCTNP	1.3953	0.98638E-01	14.146

A-12 CITY OF AUSTIN

MODEL: COA

SYMBOL DECLARATIONS

ENDOGENOUS:

AFCCOA	-	AVERAGE FIXED COSTS:000'S OF & PER MWH
AQTCOA	-	AVERAGE FUEL EXPENSES AND PURCHASED POWER COSTS: 000'S OF $ PER MWH
CAPCOA	-	COMMERCIAL AVERAGE PRICE:000'S OF $ PER MWH
CAPINST	-	INSTRUMENT FOR CAPCOA
CSCOA	-	COMMERCIAL SALES:MWH
GENRCOA	-	GENERATION REQUIREMENTS:MWH
GRNG	-	GENERATION REQUIREMENTS FROM NATURAL GAS PLANT:MWH
GRPLNTA	-	GENERATION REQUIREMENT FROM PLANT A:MWH
GRPLNTB	-	GENERATION REQUIREMENT FROM PLANT B:MWH
GRPLNTC	-	GENERATION REQUIREMENT FROM PLANT C:MWH
GRPLNTD	-	GENERATION REQUIREMENT FROM PLANT D:MWH
GRPLNTE	-	GENERATION REQUIREMENT FROM PLANT E:MWH
GRPPNU	-	GENERATION REQUIREMENTS FROM PURCHASED POWER FROM NON-UTILITY SOURCES:MWH
GRSO	-	GENERATION REQUIREMENTS FROM OTHER SOURCES:MWH
IAPCOA	-	INDUSTRIAL AVERAGE PRICE:000'S OF $ PER MWH
MATSCOA	-	FOUR QUARTER MOVING AVERAGE OF TOTAL SALES:MWH
PLNTAC	-	CONDITIONAL VARIABLE
PLNTBC	-	CONDITIONAL VARIABLE
PLNTCC	-	CONDITIONAL VARIABLE
PLNTDC	-	CONDITIONAL VARIABLE
PLNTEC	-	CONDITIONAL VARIABLE
PPNUC	-	CONDITIONAL VARIABLE
QTCOA	-	TOTAL FUEL EXPENSE AND PURCHASED POWER COST ESTIMATE:000'S OF $
RAPCOA	-	RESIDENTIAL AVERAGE PRICE:000'S OF $ PER MWH
RAPINST	-	INSTRUMENT FOR RAPCOA
RSCOA	-	RESIDENTIAL SALES:MWH

TVCCOA	-	TOTAL FUEL AND PURCHASED POWER EXPENSE REQUIREMENTS:000'S OF $
TSCOA	-	TOTAL SYSTEM SALES:MWH
VCNG	-	NATURAL GAS COST:000'S OF $
VCPLNTA	-	VARIABLE COST FOR PLANTA:000'S OF $
VCPLNTB	-	VARIABLE COST FOR PLANTB:000'S OF $
VCPLNTC	-	VARIABLE COST FOR PLANTC:000'S OF $
VCPLNTD	-	VARIABLE COST FOR PLANTD:000'S OF $
VCPLNTE	-	VARIABLE COST FOR PLANTE:000'S OF $
VCPPNU	-	PURCHASED POWER COST FROM NON-UTILITY SOURCES:000'S

EXOGENOUS:

C	-	CONSTANT TERM
CCDDINST	-	INSTRUMENT FOR COMMERCIAL COOLING DEGREE DAYS
CCCOA	-	COMMERCIAL CUSTOMERS:NUMBER OFCUSTOMERS
CDDCOA	-	COOLING DEGREE DAYS:NUMBER OF DAYS
CPITX	-	TEXAS CONSUMER PRICE INDEX
GCOANTA	-	GENERATION CAPABILITY OF PLANT A:MWH
GCOANTA	-	GENERATION CAPABILITY OF PLANT A:MWH
GCOANTB	-	GENERATION CAPABILITY OF PLANT B:MWH
GCOANTC	-	GENERATION CAPABILITY OF PLANT C:MWH
GCOANTD	-	GENERATION CAPABILITY OF PLANT D:MWH
GCOANTE	-	GENERATION CAPABILITY OF PLANT E:MWH
GCPPNU	-	GENERATION CAPABILITY OF PURCHASED POWER FROM NON-UTILITY SOURCES:MWH
HDDCOA	-	HEATING DEGREE DAYS:NUMBER OF DAYS
ILFCSCOA	-	LOSS FACTOR:COMMERCIAL SALES
ILFISCOA	-	LOSS FACTOR:INDUSTRIAL SALES
ILFOSCOA	-	LOSS FACTOR:OTHER SALES
ILFRSCOA	-	LOSS FACTOR:RESIDENTIAL SALES
ILFWSCOA	-	LOSS FACTOR:WHOLESALE SALES
ISDUM	-	DUMMY FOR INDUSTRIAL SALES
ILFWSCOA	-	LOSS FACTOR:WHOLESALE SALES
OADUM	-	OTHER AVERAGE PRICE DUMMY
PNGCOM	-	PRICE OF NATURAL GAS TO COMMERCIAL CUSTOMERS: $ PER MCF

PNGIND	-	PRICE OF NATURAL GAS TO INDUSTRIAL CUSTOMERS: $ PER MCF
POPCOA	-	POPULATION DATA:000'S OF PERSONS
RCDDINST	-	INSTRUMENT FOR RESIDENTIAL COOLING DEGREE DAYS
RCCOA	-	RESIDENTIAL CUSTOMERS:NUMBER OF CUSTOMERS
RHDDINST	-	INSTRUMENT FOR RESIDENTIAL HEATING DEGREE DAYS
UFCNG	-	FUEL COST TO PRODUCE ONE KWH OF ELECTRICITY IN NATURAL GAS PLANT:000'S OF $
UFCOAANTA	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT A:000'S OF $ PER MWH
UFCOAANTB	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT B:000'S OF $ PER MWH
UFCOAANTC	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT C:000'S OF $ PER MWH
UFCOAANTD	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT D:000'S OF $ PER MWH
UFCOAANTE	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRICITY IN PLANT E:000'S OF $ PER MWH
UFCPPNU	-	UNIT COST OF PURCHASED POWER FROM NON-UTILITY SOURCES: 000'S OF $ PER MWH
WAPDUM1	-	WHOLESALE AVERAGE PRICE DUMMY:QUARTER 1
WAPDUM2	-	WHOLESALE AVERAGE PRICE DUMMY:QUARTER 2

IDENTITIES

RAPINST	=	(RAPCOA/PNGRES)*RCCOA
CAPINST	=	(CAPCOA(-3)/PNGCOM(-3))*CCCOA
TSCOA	=	RSCOA+CSCOA+ISCOA+OSCOA
MATSCOA	=	(TSCOA+TSCOA(-1)+TSCOA(-2)+TSCOA(-3))/4
AQTCOA	=	QTCOA/TSCOA
AFCCOA	=	MATFCCOA/MATSCOA
GENRCOA	=	TSCOA * ILFCOA
PPNUC	=	GENRCOA-GCPPNU
SOC	=	PPNUC-GCSO
PLNTAC	=	SOC-GCPLNTA
PLNTBC	=	PLNTAC-GCPLNTB
PLNTCC	=	PLNTBC-GCPLNTC
PLNTDC	=	PLNTCC-GCPLNTD
PLNTEC	=	PLNTDC-GCPLNTE

GRPPNU	=	(PPNUC>0)*GCPPNU+(PPNUC<0)*GENRCOA
VCPPNU	=	GRPPNU*UFCPPNU
GRSO	=	(PPNUC)*((SOC>0)*GCSO+(SOC<0)*PPNUC)
GRPLNTA	=	(PPNUC>0)*(SOC>0)*((PLNTAC>0)*GCPLNTA+(PLNTAC<0)*SOC)
VCPLNTA	=	GRPLNTA*UFCPLNTA
GRPLNTB	=	(PPNUC>0)*(SOC>0)*(PLNTAC>0)*((PLNTBC>0)*GCPLNTB+ PLNTBC<0)*PLNTAC)
VCPLNTB	=	GRPLNTB*UFCPLNTB
GRPLNTC	=	(PPNUC>0)*(SOC>0) * (PLNTAC>0)*(PLNTBC>0)*((PLNTCC>0)* GCPLNTC+(PLNTCC<0)*PLNTBC)
VCPLNTC	=	GRPLNTC*UFCPLNTC
GRPLNTD	=	(PPNUC>0)*(SOC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*((PLNTDC>0)* GCPLNTD+(PLNTDC<0)*PLNTCC)
VCPLNTD	=	GRPLNTD*UFCPLNTD
GRPLNTE	=	(PPNUC>0)*(SOC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)* (PLNTDC>0)* VCPLNTE = GRPLNTE*UFCPLNTE
GRNG	=	(PPNUC>0)*(SOC>0)*(PLNTAC>0)*(PLNTBC>0)*(PLNTCC>0)*(PLNTDC>0)* (PLNTEC>0)*PLNTEC
VCNG	=	GRNG*UFCNG
TVCCOA	=	VCPPNU+VCPLNTA+VCPLNTB+VCPLNTC+VCPLNTD+VCPLNTE+VCNG

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 1: RESIDENTIAL SALES

RSCOA = a0 +A1*RSCOA + a2*RAPINST + a3*RPICOA + a4* RCDDINST + a5*RHDDINST

FINAL VALUE OF RHO	=	-0.966027
STANDARD ERROR OF RHO	=	0.413835E-01
T-STATISTIC FOR RHO	=	-23.3433
SUM OF SQUARED RESIDUALS	=	0.230569E+11
STANDARD ERROR OF THE REGRESSION	=	26432.8
MEAN OF DEPENDENT VARIABLE	=	965642.
STANDARD DEVIATION	=	227007.
R^2	=	0.988226

ADJUSTED R^2	=	0.986442
DURBIN-WATSON STATISTIC	=	1.5874
LOG OF LIKELIHOOD FUNCTION	=	-449.193
NUMBER OF OBSERVATIONS	=	39

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-26062.	15553.	-1.6757
RSCOA(-1)	0.47585	0.40360E-01	11.790
RAPINST	-16.588	11.950	-1.3881
RPICOA	0.21435E+06	63500.	3.3756
RCDDINST	0.11483E-02	0.11440E-03	10.038
RHDDINST	0.36897E-03	0.18004E-03	2.0494

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 2: COMMERCIAL SALES

CSCOA = b0 + b1*CAPINST + b2*POPCOA +b3*CCDDINST + b4*CHDDINST

FINAL VALUE OF RHO	=	0.402243
STANDARD ERROR OF RHO	=	0.151968
T-STATISTIC FOR RHO	=	2.64689
SUM OF SQUARED RESIDUALS	=	0.294639E+11
STANDARD ERROR OF THE REGRESSION	=	29014.2
MEAN OF DEPENDENT VARIABLE	=	357286.
STANDARD DEVIATION	=	101314.
R^2	=	0.926400
ADJUSTED R^2	=	0.917988
DURBIN-WATSON STATISTIC	=	1.7521
LOG OF LIKELIHOOD FUNCTION	=	-465.197
NUMBER OF OBSERVATIONS	=	40

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC

C	-0.52252E+06	69596.	-7.5078
CAPINST	-579.04	190.85	-3.0339
POPCOA	2647.6	206.29	12.835
CCDDINST	0.53567E-02	0.49782E-03	10.760
CHDDINST	0.29083E-02	0.77655E-03	3.7452

2SLS ESTIMATION USING COCHRANE-ORCUTT ITERATIVE TECHNIQUE

EQUATION 3: RESIDENTIAL PRICE

RAPCOA = c0 + c1*RAPCOA + c2*AQTCOA +c3*AFCCOA

FINAL VALUE OF RHO	=	0.517805
STANDARD ERROR OF RHO	=	0.138780
SUM OF SQUARED RESIDUALS	=	0.795855E-03
STANDARD ERROR OF THE REGRESSION	=	0.483813E-02
MEAN OF DEPENDENT VARIABLE	=	0.289880E-01
STANDARD DEVIATION	=	0.815681E-02
R^2	=	0.678096
ADJUSTED R^2	=	0.649693
DURBIN-WATSON STATISTIC	=	1.8091
LOG OF LIKELIHOOD FUNCTION	=	150.780
NUMBER OF OBSERVATIONS	=	38

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.15851E-01	0.16321E-01	-0.97122
RAPCOA(-4)	0.76896	0.10223	7.5221
AQTCOA	0.24829	A0.14116	1.7590
AFCCOA	0.55730	0.32271	1.7269

2SLS ESTIMATION

EQUATION 4: COMMERCIAL PRICE

CAPCOA = d0 + d1*CAPCOA(-1) + d2*AQTCOA +d3*AFCCOA

SUM OF SQUARED RESIDUALS	=	0.721433E-03
STANDARD ERROR OF THE REGRESSION	=	0.447658E-02
MEAN OF DEPENDENT VARIABLE	=	0.650085E-01
STANDARD DEVIATION	=	0.742192E-02
R^2	=	0.676336
ADJUSTED R^2	=	0.649364
DURBIN-WATSON STATISTIC	=	1.7395
F-STATISTIC(3,36)	=	23.7340
NUMBER OF OBSERVATIONS	=	40

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.82560E-02	0.10785E-01	-0.76553
CAPCOA(-1)	0.85309	0.99881E-01	8.5410
AQTCOA	0.22215	0.96087E-01	2.3120
AFCCOA	0.27297	0.17689	1.5432

2SLS ESTIMATION

EQUATION 5: INDUSTRIAL PRICE

IAPCOA = e0 + e1*IAPCOA(-1) + d2*AQTCOA +d3*AFCCOA

STANDARD ERROR OF THE REGRESSION	=	0.385249E-02
MEAN OF DEPENDENT VARIABLE	=	0.584879E-01
STANDARD DEVIATION	=	0.897899E-02
R^2	=	0.833032
ADJUSTED R^2	=	0.819118
DURBIN-WATSON STATISTIC	=	1.6925
F-STATISTIC(3,36)	=	58.6178
NUMBER OF OBSERVATIONS	=	40

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.39027E-02	0.90485E-02	-0.43131
IAPCOA(-1)	0.89583	0.70738E-01	12.664
AQTCOA	0.18663	0.83097E-01	2.2460
AFCCOA	0.10192	0.14940	0.68223

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD TECHNIQUE

EQUATION 6: TOTAL FUEL EXPENSE

QTCOA = f0 + f1*TVCCOA

FINAL VALUE OF RHO	=	0.599663
STANDARD ERROR OF RHO	=	0.120605
T-STATISTIC FOR RHO	=	4.97211
SUM OF SQUARED RESIDUALS	=	0.194649E+10
STANDARD ERROR OF THE REGRESSION	=	6890.23
MEAN OF DEPENDENT VARIABLE	=	14435.3
STANDARD DEVIATION	=	11130.4
R^2	=	0.629664
ADJUSTED R^2	=	0.620631
DURBIN-WATSON STATISTIC	=	2.0991
LOG OF LIKELIHOOD FUNCTION	=	-440.241
NUMBER OF OBSERVATIONS	=	43

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	7264.8	4012.1	1.8107
TVCCOA	0.98179	0.11123	8.8270

A-13 BRAZOS ELECTRIC POWER COOPERATIVE

MODEL: BEP

SYMBOL DECLARATIONS

ENDOGENOUS:

AFCBEP	-	AVERAGE FIXED COSTS:000'S OF $ PER MWH
AQTBEP	-	AVERAGE FUEL EXPENSES AND PURCHASED POWER COSTS: 000'S OF $ PER MWH
CAPBEP	-	COMMERCIAL AVERAGE PRICE:000'S OF $ PER MWH
CAPINST	-	INSTRUMENT FOR CAPBEP
CSBEP	-	COMMERCIAL SALES:MWH
GENRBEP	-	GENERATION REQUIREMENTS:MWH
GRPLNTA	-	GENERATION REQUIREMENT FROM PLANT A:MWH
GRPLNTB	-	GENERATION REQUIREMENT FROM PLANT B:MWH
GRPLNTC	-	GENERATION REQUIREMENT FROM PLANT C:MWH
GRPPNU	-	GENERATION REQUIREMENTS FROM PURCHASED POWER FROM NON-UTILITY SOURCES:MWH
IAPBEP	-	INDUSTRIAL AVERAGE PRICE:000'S OF $ PER MWH
IAPINST	-	INSTRUMENT FOR IAPBEP
ISBEP	-	INDUSTRIAL SALES:MWH
OAPBEP1	-	OTHER AVERAGE PRICE:000'S OF $ PER MWH
OAPINST1	-	INSTRUMENT FOR OAPBEP1
OSBEP1	-	OTHER SALES INCLUDING SALES TO CITIES AND TEXAS A & M:MWH
PLNTAC	-	CONDITIONAL VARIABLE
PLNTBC	-	CONDITIONAL VARIABLE
PPNUC	-	CONDITIONAL VARIABLE
QTBEP	-	TOTAL FUEL EXPENSE AND PURCHASED POWER COST ESTIMATE: 000'S OF $
RAPBEP	-	RESIDENTIAL AVERAGE PRICE:000'S OF $ PER MWH
RAPINST	-	INSTRUMENT FOR RAPBEP
RSBEP	-	RESIDENTIAL SALES:MWH
TSBEP	-	TOTAL SYSTEM SALES (AT THE DISTRIBUTION POINTS):MWH
TVCBEP	-	TOTAL FUEL AND PURCHASED POWER EXPENSE REQUIREMENTS: 000'S OF $

VBEPNTA - VARIABLE COST FOR PLANT A:000'S OF $

VBEPNTB - VARIABLE COST FOR PLANT B:000'S OF $

VBEPNTC - VARIABLE COST FOR PLANT C:000'S OF $

VCPPNU - PURCHASED POWER COST FROM NON-UTILITY SOURCES: 000'S OF $

EXOGENOUS:

C - CONSTANT TERM

CCBEP - COMMERCIAL CUSTOMERS:NUMBER OF CUSTOMERS

CCDDINST - INSTRUMENT FOR COMMERCIAL COOLING DEGREE DAYS

CDDBEP - COOLING DEGREE DAYS:NUMBER OF DAYS

CHDDINST - INSTRUMENT FOR COMMERCIAL HEATING DEGREE DAYS

CPITX - TEXAS CONSUMER PRICE INDEX

D3 - DUMMY FOR QTBEP

GCPLNTA - GENERATION CAPABILITY OF PLANT A:MWH

GCPLNTB - GENERATION CAPABILITY OF PLANT B:MWH

GCPLNTC - GENERATION CAPABILITY OF PLANT C:MWH

GCPPNU - GENERATION CAPABILITY OF PURCHASED POWER FROM NON-UTILITY SOURCES:MWH

GNPD - GNP DEFLATOR

HDDBEP - HEATING DEGREE DAYS:NUMBER OF DAYS

ILFCSBEP - LOSS FACTOR:COMMERCIAL SALES

ILFISBEP - LOSS FACTOR:INDUSTRIAL SALES

ILFRSBEP - LOSS FACTOR:RESIDENTIAL SALES

MATFCBEP - FOUR QUARTER MOVING AVERAGE OF FIXED COSTS:000'S OF $

NAGBEPC - NON-AGRICULTURAL EMPLOYMENT IN BEPC SERVICE AREA: 000'S OF PERSONS

PPIF - PRODUCER PRICE INDEX:FINISHED GOODS

PPII - PRODUCER PRICE INDEX:INDUSTRIAL GOODS

RCBEP - RESIDENTIAL CUSTOMERS:NUMBER OF CUSTOMERS

RCDDINST - INSTRUMENT FOR RESIDENTIAL COOLING DEGREE DAYS

RHDDINST - INSTRUMENT FOR RESIDENTIAL HEATING DEGREE DAYS

RPIBEPC - REAL PERSONAL INCOME:BILLIONS OF $

RPNGCOMI - INSTRUMENT FOR PRICE OF NATURAL GAS TO COMMERCIAL CUSTOMERS

RPNGIND - REAL PRICE OF NATURAL GAS TO INDUSTRIAL CUSTOMERS; $ PER MCF

RPNGRES	-	REAL PRICE OF NATURAL GAS TO RESIDENTIAL CUSTOEMRS; $ PER MCF
RPNGRESI	-	INSTRUMENT FOR PRICE OF NATURAL GAS TO RESIDENTIAL CUSTOMERS:
UFCPLNTA	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRCITY IN PLANT A: 000'S OF $
UFCPLNTB	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRCITY IN PLANT B: 000'S OF $
UFCPLNTC	-	FUEL COST TO PRODUCE ONE MWH OF ELECTRCITY IN PLANT C: 000'S OF $
UFCPPNU	-	UNIT COST OF PURCHASED POWER FROM NON-UTILITY SOURCES: 000'S OF $

IDENTITIES

AQTBEP	=	QTBEP/TSBEP
RAPINST	=	(RAPBEP/CPITX)*RCBEP
CAPINST	=	(CAPBEP/PPIF)*CCBEP
IAPINST	=	(IAPBEP/PPII)
OAPINST1	=	OAPBEP1/GNPD
TSBEP	=	(RSBEP*ILFRSBEP+CSBEP*ILFCSBEP+ISBEP*ILFISBEP+OSBEP1)* 1.024
AFCBEP	=	MATFCBEP/((TSBEP+TSBEP(-1)+TSBEP(-2)+TSBEP(-3))/4)
GENRBEP	=	TSBEP*1.045
PPNUC	=	GENRBEP-GCPPNU
PLNTAC	=	PPNUC-GCPLNTA
PLNTBC	=	PLNTAC-GCPLNTB
GRPPNU	=	(PPNUC>0)*GCPPNU+(PPNUC<0)*GENRBEP
VCPPNU	=	GRPPNU*UFCPPNU
GRPLNTA	=	(PPNUC>0)*((PLNTAC>0)*GCPLNTA+(PLNTAC<0)*PPNUC)
VCPLNTA	=	GRPLNTA*UFCPLNTA
GRPLNTB	=	(PPNUC>0)*(PLNTAC>0)*((PLNTBC>0)*GCPLNTB+(PLNTBC<0)*PLNTAC)
VCPLNTB	=	GRPLNTB*UFCPLNTB
GRPLNTC	=	(PPNUC>0)*(PLNTAC>0)*(PLNTBC>0)*PLNTBC
VCPLNTC	=	GRPLNTC*UFCPLNTC
TVCBEP	=	VCPLNTA+VCPLNTB+VCPLNTC+VCPPNU

EQUATION ESTIMATES

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 1: RESIDENTIAL SALES

RSBEP = a0 + a1*RAPINST + a2*RPNGRESI + a3*RPIBEPC(-4) + a4*RCDDINST + a5*RHDDINST

FINAL VALUE OF RHO	=	-0.790698
STANDARD ERROR OF RHO	=	0.961037E-01
T-STATISTIC FOR RHO	=	-8.22755
SUM OF SQUARED RESIDUALS	=	0.129722E+11
STANDARD ERROR OF THE REGRESSION	=	19532.9
MEAN OF DEPENDENT VARIABLE	=	731010.
STANDARD DEVIATION	=	182458.
R^2	=	0.990028
ADJUSTED R^2	=	0.988561
DURBIN-WATSON STATISTIC	=	2.0196
LOG OF LIKELIHOOD FUNCTION	=	-449.192
NUMBER OF OBSERVATIONS	=	40

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-0.13456E+06	19428	-6.9262
RAPINST	-38.780	9.836	-3.9426
RPNGRESI	0.39342	0.1245	3.1576
RPIBEPC(-4)	0.54607E+06	35214	15.507
RCDDINST	0.12042E-02	0.97553E-04	12.344
RHDDINST	0.99574E-03	0.11039E-03	9.0205

2SLS ESTIMATION USING MAXIMUM LIKELIHOOD ITERATIVE TECHNIQUE

EQUATION 2: COMMERCIAL SALES

CSBEP = b0 + b1*CAPINST + b2*RPNGCOMI + b3*NAGBEPC + b4*CCDDINST + b5*CHDDINST

FINAL VALUE OF RHO	=	0.303356
STANDARD ERROR OF RHO	=	0.161749
T-STATISTIC FOR RHO	=	1.87547
SUM OF SQUARED RESIDUALS	=	0.590999E+09
STANDARD ERROR OF THE REGRESSION	=	4169.21
MEAN OF DEPENDENT VARIABLE	=	122570.
STANDARD DEVIATION	=	23418.4
R^2	=	0.972401
ADJUSTED R^2	=	0.968343
DURBIN-WATSON STATISTIC	=	1.8297
LOG OF LIKELIHOOD FUNCTION	=	-386.975
NUMBER OF OBSERVATIONS	=	40

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-88625.	12920.	-6.8596
CAPINST	-26.430	11.541	-2.2901
RPNGCOMI	0.65029	0.15704	4.1409
NAGBEPC	1115.4	98.434	11.331
CCDDINST	0.97432E-03	0.92731E-04	10.507
CHDDINST	0.59314E-03	0.95814E-04	6.1905

2SLS ESTIMATION

EQUATION 3: INDUSTRIAL SALES

ISBEP = c0 + c1*ISBEP(-1) + c2*IAPINST + c3*RPNGIND(-4) + c4*NAGBEPC(-4) + c5*CDDBEP

SUM OF SQUARED RESIDUALS	=	0.687704E+09
STANDARD ERROR OF THE REGRESSION	=	4955.89
MEAN OF DEPENDENT VARIABLE	=	56207.5
STANDARD DEVIATION	=	16344.8
R^2	=	0.922178
ADJUSTED R^2	=	0.908282
DURBIN-WATSON STATISTIC	=	1.9842
F-STATISTIC	=	66.1896
NUMBER OF OBSERVATIONS	=	34

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	25308.	15575.	1.6249
ISBEP(-1)	0.60055	0.12142	4.9460
IAPINST	-0.10769E+07	0.31211E+06	-3.4502
RPNGIND(-4)	7313.78	3659.0	1.9988
NAGBEPC(-4)	147.56	76.016	1.9412
CDDBEP	5.4384	1.3655	3.9826

2SLS ESTIMATION

EQUATION 4: OTHER SALES

OSBEP1 = d0 + d1*OSBEP1(-1) + d2*OAPINST1 + d3*RPNGRES + d4*NAGBEPC + d5*CDDBEP + d5*HDDBEP

SUM OF SQUARED RESIDUALS	=	0.249119E+10
STANDARD ERROR OF THE REGRESSION	=	8559.80
MEAN OF DEPENDENT VARIABLE	=	81027.5
STANDARD DEVIATION	=	26851.3
R^2	=	0.913620
ADJUSTED R^2	=	0.898376
DURBIN-WATSON STATISTIC	=	1.6569

F-STATISTIC	=	59.9345
NUMBER OF OBSERVATIONS	=	41

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	-77661.	31030.	-2.5027
OSBEP1(-1)	0.19252	0.72160E-01	2.6680
OAPINST1	-0.32507E+06	0.62391E+06	-0.52102
RPNGRES	29062.	15971.	1.819
NAGBEPC	307.32	120.24	2.5559
CDDBEP	50.613	4.7295	10.702
HDDBEP	21.348	5.1966	4.108

2 SLS ESTIMATION

EQUATION 5: RESIDENTIAL AVERAGE PRICE

RAPBEP = e0 + e1*AQTBEP + e2*AFCBEP(-4) + e3*AQTBEP(-4)

SUM OF SQUARED RESIDUALS	=	0.450044E-03
STANDARD ERROR OF THE REGRESSION	=	0.369293E-02
MEAN OF DEPENDENT VARIABLE	=	0.725964E-01
STANDARD DEVIATION	=	0.108049E-01
R^2	=	0.893820
ADJUSTED R^2	=	0.884167
DURBIN-WATSON STATISTIC	=	2.0080
F-STATISTIC	=	91.7256
NUMBER OF OBSERVATIONS	=	37

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.11853E-01	0.44835E-02	2.6437
AQTBEP	0.61159	0.11433	5.3495
AFCBEP(-4)	1.1445	0.20919	5.4713
AQTBEP(-4)	0.49228	0.10780	4.5664

2SLS ESTIMATION

EQUATION 6: COMMERCIAL AVERAGE PRICE

CAPBEP = f0 + f1*AQTBEP + f2*AFCBEP(-4) + f3*AQTBEP(-4)

SUM OF SQUARED RESIDUALS	=	0.317098E-03
STANDARD ERROR OF THE REGRESSION	=	0.309984E-02
MEAN OF DEPENDENT VARIABLE	=	0.673670E-01
STANDARD DEVIATION	=	0.951109E-02
R^2	=	0.904933
ADJUSTED R^2	=	0.896291
DURBIN-WATSON STATISTIC	=	2.3844
F-STATISTIC	=	101.970
NUMBER OF OBSERVATIONS	=	37

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.10703E-01	0.37635E-02	2.8440
AQTBEP	0.63194	0.95967E-01	6.5850
AFCBEP(-4)	1.1598	0.17559	6.6049
AQTBEP(-4)	0.35771	0.90490E-01	3.9531

2SLS ESTIMATION

EQUATION 7: INDUSTRIAL AVERAGE PRICE

IAPBEP = g0 + g1*AQTBEP + g2*AFCBEP + g3*AQTBEP(-2)

SUM OF SQUARED RESIDUALS	=	0.637496E-03
STANDARD ERROR OF THE REGRESSION	=	0.415086E-02
MEAN OF DEPENDENT VARIABLE	=	0.537954E-01

STANDARD DEVIATION	=	0.106493E-01
R^2	=	0.860571
ADJUSTED R^2	=	0.849266
DURBIN-WATSON STATISTIC	=	1.5684
F-STATISTIC	=	75.4290
NUMBER OF OBSERVATIONS	=	41

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.11605E-01	0.32320E-02	3.5906
AQTBEP	0.40164	0.15425	2.6037
AFCBEP	0.23940	0.21385	1.1195
AQTBEP(-2)	0.63455	0.16895	3.7559

2SLS ESTIMATION

EQUATION 8: OTHER AVERAGE PRICE

OAPBEP1 = h0 + h1*AQTBEP + h2*AFCBEP(-1) + h3*AQTBEP(-4)

SUM OF SQUARED RESIDUALS	=	0.887845E-03
STANDARD ERROR OF THE REGRESSION	=	0.503657E-02
MEAN OF DEPENDENT VARIABLE	=	0.503129E-01
STANDARD DEVIATION	=	0.872652E-02
R^2	=	0.693231
ADJUSTED R^2	=	0.666937
DURBIN-WATSON STATISTIC	=	1.7014
F-STATISTIC	=	26.3589
NUMBER OF OBSERVATIONS	=	39

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	0.16149E-01	0.46028E-02	3.5085
AQTBEP	0.42468	0.13226	3.2108
AFCBEP(-1)	0.41670	0.29331	1.4207
AQTBEP(-4)	0.30502	0.14923	2.0440

2SLS ESTIMATION

EQUATION 9: TOTAL FUEL EXPENSE & PURCHASED POWER COST

QTBEP = i0 + i1*TVCBEP + i2*D3

SUM OF SQUARED RESIDUALS	=	0.380461E+09
STANDARD ERROR OF THE REGRESSION	=	3164.20
MEAN OF DEPENDENT VARIABLE	=	29199.1
STANDARD DEVIATION	=	9947.82
R^2	=	0.905389
ADJUSTED R^2	=	0.900410
DURBIN-WATSON STATISTIC	=	1.4708
F-STATISTIC	=	178.678
NUMBER OF OBSERVATIONS	=	41

VARIABLE	ESTIMATED COEFFICIENT	STANDARD ERROR	T-STATISTIC
C	6676.6	2581.6	2.5863
TVCBEP	0.58535	0.139531	4.1951
D3	17256.	1079.3	15.987