

MPSC CASE NO GR-2014-0086

SURREBUTTAL TESTIMONY OF TIMOTHY R JOHNSTON

SCHEDULE TRJ - 2

TARTAN ENERGY COMPANY, L.C.

dba

SOUTHERN MISSOURI GAS COMPANY

FILED

JUL 1 1994

MISSOURI
PUBLIC SERVICE COMMISSION

Supplement #1 to the

FEASIBILITY STUDY

(Highway 60/63 Project Demand and Economics Sensitivities)

EXHIBIT 4

JANUARY 1994

GR-2014-0086 Surrebuttal Schedule TRJ-2

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SOUTHERN MISSOURI GAS COMPANY
HIGHWAY 60/63 PROJECT
EXHIBIT FS-17 DEMAND FORECAST
SENSITIVITY #2 - LOW CONVERSION

Section 1: RESIDENTIAL DEMAND
Assumed Data/Calculations:

City:	1990 Population	Estimated Residences	Estimated % Conversions (End 3rd Yr)	Estimated # Conversions (End 3rd Yr)	Estimated Demand per Residence (MCF/Yr)	Est. Res. Demand per City (MCF/Yr) (End 3rd Yr)	1st Construction Season % per City	2nd Construction Season % per City	3rd Construction Season % per City	Estimated Annual Growth (Post yr 3)
Mansfield	1,428	595	80.0%	357	100	35,725	70.0%	20.0%	10.0%	1.30%
Marshfield	4,374	1,823	80.0%	1,064	100	109,350	70.0%	20.0%	10.0%	1.30%
Ava	2,938	1,224	80.0%	735	100	73,450	0.0%	70.0%	30.0%	1.30%
Mountain Grove	4,182	1,743	80.0%	1,048	100	104,550	70.0%	20.0%	10.0%	1.30%
Cabool	2,008	836	80.0%	502	100	50,150	70.0%	20.0%	10.0%	1.30%
Willow Springs	2,038	848	80.0%	510	100	50,950	70.0%	20.0%	10.0%	1.30%
West Plains	5,813	3,714	80.0%	2,228	100	222,825	70.0%	20.0%	10.0%	1.30%
Mountain View	2,036	848	80.0%	509	100	50,900	0.0%	70.0%	30.0%	1.30%
Houston	2,118	883	80.0%	530	100	52,950	0.0%	70.0%	30.0%	1.30%
Licking	1,828	553	80.0%	332	100	33,200	0.0%	70.0%	30.0%	1.30%
Total	31,382	13,068		7,841		784,050				
Probable Additional Cities:										
Rogersville	995	415	80.0%	249	100	24,875	0.0%	70.0%	30.0%	1.0%
Fordland	523	218	80.0%	131	100	13,075	0.0%	0.0%	100.0%	1.0%
Diggins	268	108	80.0%	85	100	8,450	0.0%	0.0%	100.0%	1.0%
Seymour	1838	882	80.0%	409	100	40,900	0.0%	70.0%	30.0%	1.0%
Nonwood	448	187	80.0%	112	100	11,225	0.0%	0.0%	100.0%	1.0%
Total	3,881	1,809		985		98,525				

Section 1 (continued):
Calculated Residential Demand:

City:	Year 1 (MCF/Yr)	Year 2 (MCF/Yr)	Year 3 (MCF/Yr)	Year 4 (MCF/Yr)	Year 5 (MCF/Yr)	Year 6 (MCF/Yr)	Year 7 (MCF/Yr)	Year 8 (MCF/Yr)	Year 9 (MCF/Yr)	Year 10 (MCF/Yr)
Mansfield	25,008	32,153	35,725	38,189	38,680	37,138	37,819	36,108	35,604	39,108
Marshfield	78,645	98,415	109,350	110,772	112,212	113,670	115,148	118,845	118,181	119,897
Ava	0	51,415	73,450	74,405	75,372	77,345	78,352	79,389	80,400	80,400
Mountain Grove	73,185	94,095	104,550	105,909	107,288	108,681	110,094	111,525	112,975	114,443
Cabool	35,105	45,135	50,150	50,802	51,462	52,131	52,809	53,488	54,181	54,898
Willow Springs	35,885	45,855	50,950	51,612	52,283	52,963	53,652	54,348	55,058	55,771
West Plains	155,878	200,543	222,825	226,722	228,658	231,829	234,840	237,890	240,780	243,810
Mountain View	0	35,690	50,900	51,552	52,232	52,811	53,599	54,296	55,001	55,717
Houston	0	37,065	52,950	53,838	54,338	55,042	55,758	56,482	57,217	57,880
Licking	0	23,240	33,200	33,832	34,089	34,812	34,980	35,415	35,875	36,342
Total Residential Demand:	401,485	583,545	784,050	794,243	804,568	815,027	825,823	836,358	847,228	858,242
Probable Additional Cities:										
Rogersville	0	17,413	24,875	25,124	25,375	25,829	25,885	26,144	26,405	26,889
Fordland	0	0	13,075	13,208	13,338	13,471	13,608	13,742	13,879	14,018
Diggins	0	0	8,450	8,615	8,580	8,645	8,712	8,778	8,847	8,915
Seymour	0	28,630	40,900	41,909	41,722	42,139	42,591	42,988	43,418	43,850
Nonwood	0	0	11,225	11,397	11,451	11,568	11,681	11,798	11,818	12,035
Total Additional City Demand:	0	46,043	96,525	97,490	98,465	99,450	100,444	101,448	102,483	103,498
Total Project Residential Demand:	401,485	709,588	880,575	891,733	903,033	914,477	926,067	937,804	949,681	961,730

Note: Probable demand resulting from farm taps not included

Section 2: COMMERCIAL DEMAND

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1st calculation: <-- Industry percentage										
Post yr. 3 annual growth:	1.0%									
As % of Res. Demand:	38.0%	152,584	259,843	334,619	337,965	341,344	344,768	348,205	351,697	355,204
* (typical per AGA study)										
2nd calculation: <-- Missouri-specific data										
Post yr. 3 annual growth:	1.0%									
As MO avg** ratio comm/res:	50.4%	202,413	357,748	443,952	448,391	452,875	457,404	461,978	466,595	471,284
** (87-91 avg. per NGA 91)										
Assumed (conservative) Commercial Demand for this Study:										
(1st calc. + 2nd calc.)/2:	44.2%	177,489	319,595	389,285	393,178	397,110	401,081	405,092	409,143	413,234

Section 3: INDUSTRIAL DEMAND

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1st calculation: <-- Missouri-specific data										
Post yr. 3 annual growth:	1.0%									
As MO avg***ratio ind./res:	45.1%	180,919	319,757	386,808	401,838	408,928	412,085	417,306	422,597	427,854
*** (87-91 avg. per NGA 91)										
2nd empirical determination: <-- Noncomprehensive direct data for Highway 60/63 project										
Post yr. 3 annual growth:	1.0%									
Identified Industrial Yr. 3 Volumes:										
(MCF/Yr)										
Seymour	140,000	0	70,000	140,000	141,400	142,814	144,242	145,685	147,141	148,613
Marshfield	70,000	35,000	65,000	70,000	70,700	71,407	72,121	72,842	73,571	74,308
Mt. Grove	80,000	40,000	55,000	80,000	80,800	81,208	81,818	82,436	83,081	83,891
Cabool	190,000	100,000	150,000	190,000	191,900	193,819	195,757	197,715	199,692	201,689
W. Plains	120,000	30,000	80,000	120,000	121,200	122,412	123,638	124,872	126,121	127,382
Total	580,000	205,000	410,000	580,000	585,800	591,658	597,575	603,550	609,586	615,882
Assumed (conservative) Industrial Demand for this Study:										
(1st calc. + 2nd emp. determination)/2:		192,959	364,879	488,404	493,818	498,293	504,830	510,429	516,092	521,818

Total 10 Year SMGC Highway 60/63 Project System Demand (Residential + Commercial + Industrial):

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
(MCF/Yr)										
SYSTEM DEMAND BY YEAR:-->	771,933	1,388,181	1,768,284	1,778,729	1,799,438	1,820,388	1,841,588	1,863,038	1,884,743	1,906,703

1,789,083