

Empire District Gas Company
South System Gas Cost Inputs

Enclosure 1

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South System Line Loss	0.47%
Annual Burnertip Sales	2,623,312

SSTAR Rates

Firm Rates		Tariff
TSS		Rate
No-Notice Fee (NNF)	\$	0.0007
Reservation - FTS-P (RES)	\$	5.7944
Reservation - FTS-M (RES)	\$	4.1671
FTS		
Production - Reservation (RES)	\$	5.7944
Market - Reservation (RES)	\$	4.1671

Commodity Rates

Production		
Commodity - FTS-P (CMD)	\$	0.0098
Commodity Balancing Fee (CMB)	\$	0.0007
Production Field Zone	\$	0.0105
Market		
Commodity - FTS-M (CMD)	\$	0.0085
Commodity Balancing Fee (CMB)	\$	0.0007
FERC Annual Charge Adjustment (ACA)	\$	0.0019
Market Zone	\$	0.0111
Injection/Withdrawal - FSS	\$	0.0114

SSTAR Production Area Loss	1.84%
SSTAR Market Area Loss	0.96%
SSTAR Storage Injection Loss	3.59%

Total Sales Volume @ Burnertip

Nov 11	271,098
Dec 11	493,559
Jan 12	548,500
Feb 12	436,785
Mar 12	312,948
Apr 12	159,572
May 12	73,066
Jun 12	55,182
Jul 12	51,096
Aug 12	55,958
Sep 12	58,873
Oct 12	106,675
	<u>2,623,312</u>

Note: From FERC Gas Tariff: Original Sheet No. 8 Effective 06/01/10; Original Sheet No. 10 Effective 06/01/10;
Original Sheet No. 11 Effective 06/01/10; and Alternate 1st Revised Sheet No. 13 Effective 04/01/11

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**Transportation Cost
Southern Star Pipeline**

Firm	Annual Volume	Monthly Capacity Reserved	No. of Mth Reserved	Tariff Rate	Annual Cost	MCF Cost
TSS						
No-Notice Fee (NNF)		39,618	12	\$ 0.0007	\$ 333	\$ 0.0001
Reservation - FTS-Production (RES)		14,119	12	\$ 5.7944	\$ 981,734	\$ 0.3742
Reservation - FTS-Market (RES)		39,618	12	\$ 4.1671	\$ 1,981,106	\$ 0.7552
FTS						
Production - Reservation (RES)		10,651	12	\$ 5.7944	\$ 740,594	\$ 0.2823
Market - Reservation (RES)		13,491	12	\$ 4.1671	\$ 674,620	\$ 0.2572
		<u>Volume %</u>				
Cheyenne Plains Reservation	2,376,000	100.00%		\$ 0.3400	\$ 807,840	\$ 0.3079
Pipeline Commodity Costs	2,752,443			\$ 0.0235	\$ 64,682	\$ 0.0247
Total Transportation Costs					\$ 5,250,909	\$ 2.0016
Natural Gas Purchases	2,752,443			\$ 3.9770	\$ 10,946,466	\$ 4.1728
Total Annual Cost					<u>\$ 16,197,375</u>	<u>\$ 6.1744</u>
Firm Sales Volume at Burnertip	2,623,312					
Cost per MCF at Burnertip						<u>\$ 6.1744</u>

**INTERRUPTIBLE
Southern Star Pipeline**

	Hypothetical Reservation	No. of Mth Reserved	Tariff Rate	Annual Rate	50% LF MCF Cost
TSS					
No-Notice Fee (NNF)	1.0372	12	\$ 0.0007	\$ 0.0087	\$ 0.0000
Reservation - FTS-Production (RES)	1.0334	12	\$ 5.7944	\$ 71.8552	\$ 0.3937
Reservation - FTS-Market (RES)	1.0047	12	\$ 4.1671	\$ 50.2402	\$ 0.2753
FTS					
Production - Reservation (RES)	1.0334	12	\$ 5.7944	\$ 71.8552	\$ 0.3937
Market - Reservation (RES)	1.0144	12	\$ 4.1671	\$ 50.7253	\$ 0.2779
Cheyenne Plains Reservation	332		\$ 0.3400	\$ 56.4400	\$ 0.3093
Pipeline Commodity Costs	378		\$ 0.0235	\$ 4.4415	\$ 0.0243
Total Transportation Costs				\$ 305.5661	\$ 1.6743
Natural Gas Purchases	378		\$ 3.9770	\$ 751.6530	\$ 4.1186
Total Cost				<u>\$ 1,057.2191</u>	<u>\$ 5.7930</u>
Cost per MCF at Burnertip					<u>\$ 5.7930</u>

	100% LF Volume	Demand	50% LF Volume
Total Cheyenne Plains Production Area	332		
Total Production Area Volume SSCP	378	1.0334	
Total Market Area Volume	371	1.0144	
Total City Gate Volume	367	1.0047	
Total Burner Tip Volume	365	1.0000	183

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Transportation Cost
Cheyenne Plains

Firm Transportation - FT

	Cheyenne Plains	
		Per Mcf
Reservation Rate	\$ 10.3534	\$ 0.3400
Commodity Rate		\$ 0.0010
ACA Charge		\$ 0.0019

Fuel Percentage	1.33%
L & U Percentage	0.48%

Note: Cheyenne Plains From FERC Gas Tariff: Second Revised Volume 1, Part II Section 2, Version 3.0.0 Effective 1/3/11

Distribution

	SS	PEPL	ANR	Total
Volume Percentage	65%	23%	12%	100.00%
Volume Flow through Cheyenne Plains				
Nov 11	300,000	-	-	
Dec 11	310,000	-	-	
Jan 12	310,000	-	-	
Feb 12	290,000	-	-	
Mar 12	310,000	-	-	
Apr 12	120,000	120,000	60,000	
May 12	124,000	124,000	62,000	
Jun 12	120,000	120,000	60,000	
Jul 12	124,000	124,000	62,000	
Aug 12	124,000	124,000	62,000	
Sep 12	120,000	120,000	60,000	
Oct 12	124,000	124,000	62,000	
	2,376,000	856,000	428,000	3,660,000

**Empire District Gas Company
South System
Current Gas Cost Calculation**

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	<u>Nov 11</u>	<u>Dec 11</u>	<u>Jan 12</u>	<u>Feb 12</u>	<u>Mar 12</u>	<u>Apr 12</u>	<u>May 12</u>	<u>Jun 12</u>	<u>Jul 12</u>	<u>Aug 12</u>	<u>Sep 12</u>	<u>Oct 12</u>	<u>Totals</u>
SUMMARY OF COMMODITY COSTS													
Sales Requirements	271,098	493,559	548,500	436,785	312,948	159,572	73,066	55,182	51,096	55,958	58,873	106,675	2,623,312
South System Loss	<u>0.47%</u>	<u>0.47%</u>	<u>0.47%</u>	<u>0.47%</u>	<u>0.47%</u>	<u>0.47%</u>	<u>0.47%</u>	<u>0.47%</u>	<u>0.47%</u>	<u>0.47%</u>	<u>0.47%</u>	<u>0.47%</u>	
South System Loss Volume	1,274	2,320	2,578	2,053	1,471	750	343	259	240	263	277	501	12,329
City Gate Volume	272,372	495,879	551,078	438,838	314,419	160,322	73,409	55,441	51,336	56,221	59,150	107,176	2,635,641
SSTAR Market Area Loss	<u>0.96%</u>	<u>0.96%</u>	<u>0.96%</u>	<u>0.96%</u>	<u>0.96%</u>	<u>0.96%</u>	<u>0.96%</u>	<u>0.96%</u>	<u>0.96%</u>	<u>0.96%</u>	<u>0.96%</u>	<u>0.96%</u>	
SSTAR Production Area Loss	<u>1.84%</u>	<u>1.84%</u>	<u>1.84%</u>	<u>1.84%</u>	<u>1.84%</u>	<u>1.84%</u>	<u>1.84%</u>	<u>1.84%</u>	<u>1.84%</u>	<u>1.84%</u>	<u>1.84%</u>	<u>1.84%</u>	
SSTAR - Fuel Loss	7,627	13,884	15,430	12,288	8,803	4,489	2,056	1,552	1,438	1,574	1,656	3,001	73,798
Cheyenne Plains Volume	300,000	310,000	310,000	290,000	310,000	120,000	124,000	120,000	124,000	124,000	120,000	124,000	
Cheyenne Plains Fuel + L&U Loss	<u>1.81%</u>	<u>1.81%</u>	<u>1.81%</u>	<u>1.81%</u>	<u>1.81%</u>	<u>1.81%</u>	<u>1.81%</u>	<u>1.81%</u>	<u>1.81%</u>	<u>1.81%</u>	<u>1.81%</u>	<u>1.81%</u>	
Cheyenne Plains - Fuel Loss	5,430	5,611	5,611	5,249	5,611	2,172	2,244	2,172	2,244	2,244	2,172	2,244	43,004
Purchase Requirements at Production Area	285,429	515,374	572,119	456,375	328,833	166,983	77,709	59,165	55,018	60,039	62,978	112,421	2,752,443
Contracted Financial Futures	240,000	180,000	180,000	180,000	60,000	0	0	0	0	0	0	0	840,000
Contracted Price	\$ 3.901	\$ 4.540	\$ 4.540	\$ 4.540	\$ 4.758	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Cost	\$ 936,240	\$ 817,200	\$ 817,200	\$ 817,200	\$ 285,480	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,673,320
Physical Forwards	0	0	0	0	0	0	0	0	0	0	0	0	
Average Price	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Natural Gas Market - Mid Continent	0	0	97,922	0	0	46,983	0	0	0	0	0	0	
Forecasted Price (NYMEX-WNG Basis)	\$ 3.311	\$ 3.650	\$ 3.830	\$ 3.852	\$ 3.820	\$ 3.755	\$ 3.789	\$ 3.829	\$ 3.873	\$ 3.896	\$ 3.896	\$ 3.930	
Natural Gas Market - Cheyenne Plains	0	0	0	276,375	268,833	120,000	77,709	59,165	55,018	60,039	62,978	112,421	
Forecasted Price (NYMEX-CIG Basis)	\$ 3.244	\$ 3.640	\$ 3.773	\$ 3.792	\$ 3.730	\$ 3.635	\$ 3.669	\$ 3.709	\$ 3.753	\$ 3.776	\$ 3.776	\$ 3.810	
Total Natural Gas Purchased at Market	0	0	97,922	276,375	268,833	166,983	77,709	59,165	55,018	60,039	62,978	112,421	1,237,443
Total Cost	\$ -	\$ -	\$ 375,041	\$ 1,048,014	\$ 1,002,747	\$ 612,538	\$ 285,075	\$ 219,413	\$ 206,455	\$ 226,677	\$ 237,773	\$ 428,268	\$ 4,642,001
Storage Withdrawal	45,429	335,374	294,197			0	0	0	0	0	0	0	675,000
Storage WACOG	\$ 3.898	\$ 3.898	\$ 3.898	\$ 3.898	\$ 3.898	\$ 3.898	\$ 3.898	\$ 3.898	\$ 3.898	\$ 3.898	\$ 3.898	\$ 3.898	
Total Cost	\$ 177,082	\$ 1,307,288	\$ 1,146,780	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,631,150
Forecasted Gas Commodity Cost	\$ 1,113,322	\$ 2,124,488	\$ 2,339,021	\$ 1,865,214	\$ 1,288,227	\$ 612,538	\$ 285,075	\$ 219,413	\$ 206,455	\$ 226,677	\$ 237,773	\$ 428,268	\$ 10,946,471
Purchase Requirements at Production Area	285,429	515,374	572,119	456,375	328,833	166,983	77,709	59,165	55,018	60,039	62,978	112,421	2,752,443
Gas Commodity Cost/Dth													\$ 3.9770

SUMMARY OF PIPELINE COMMODITY COSTS

Southern Star Natural Gas Pipeline - Firm													
FT Commodity (Production Area Volume)	278,857	507,684	564,198	449,286	321,904	164,139	75,157	56,761	52,558	57,559	60,558	109,728	
FT Commodity (Market Area Volume)	<u>273,726</u>	<u>498,343</u>	<u>553,817</u>	<u>441,019</u>	<u>315,981</u>	<u>161,119</u>	<u>73,774</u>	<u>55,717</u>	<u>51,591</u>	<u>56,500</u>	<u>59,444</u>	<u>107,709</u>	
Cost/Dth - Production Area	\$0.0105	\$0.0105	\$0.0105	\$0.0105	\$0.0105	\$0.0105	\$0.0105	\$0.0105	\$0.0105	\$0.0105	\$0.0105	\$0.0105	
Cost/Dth - Market Area	<u>\$0.0111</u>	<u>\$0.0111</u>	<u>\$0.0111</u>	<u>\$0.0111</u>	<u>\$0.0111</u>	<u>\$0.0111</u>	<u>\$0.0111</u>	<u>\$0.0111</u>	<u>\$0.0111</u>	<u>\$0.0111</u>	<u>\$0.0111</u>	<u>\$0.0111</u>	
Total SSTAR Pipeline Commodity Costs	\$ 5,966	\$ 10,862	\$ 12,071	\$ 9,613	\$ 6,887	\$ 3,512	\$ 1,608	\$ 1,214	\$ 1,125	\$ 1,232	\$ 1,296	\$ 2,348	\$ 57,734
Cheyenne Plains Pipeline - Firm													
Cost/Dth - Commodity	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	
Cost/Dth - ACA	<u>0.0019</u>	<u>0.0019</u>	<u>0.0019</u>	<u>0.0019</u>	<u>0.0019</u>	<u>0.0019</u>	<u>0.0019</u>	<u>0.0019</u>	<u>0.0019</u>	<u>0.0019</u>	<u>0.0019</u>	<u>0.0019</u>	
Total Cheyenne Plains Commodity Costs	\$ 870	\$ 899	\$ 899	\$ 841	\$ 899	\$ 348	\$ 360	\$ 348	\$ 360	\$ 360	\$ 348	\$ 360	\$ 6,892
Forecasted Pipeline Commodity Costs	\$ 6,836	\$ 11,761	\$ 12,970	\$ 10,454	\$ 7,786	\$ 3,860	\$ 1,968	\$ 1,562	\$ 1,485	\$ 1,592	\$ 1,644	\$ 2,708	\$ 64,626
Purchase Requirements at Production Area	285,429	515,374	572,119	456,375	328,833	166,983	77,709	59,165	55,018	60,039	62,978	112,421	2,752,443

Pipeline Commodity Cost/Dth

\$ 0.0235

Production Area Cost Gas

\$ 4.0005