

SCANNED

EXHIBIT A

→ (050000)
920807-6P

INTER-CORPORATE CORRESPONDENCE

TO: M. L. Bollinger
FROM: E. J. Burgin
DATE: April 30, 1993
RE: Technical and Economic Feasibility Analysis
for Accessing Existing Power Plants in Florida

DECLASSIFIED

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On or about April 12, 1993, I received a telephone call from Mr. Judah L. Rose of ICF Resources regarding the above-referenced subject. At that time, Mr. Rose was preparing supplemental work to his previously filed Direct Testimony in the SunShine Pipeline Partners Application for a Determination of Need before the Florida Public Service Commission.

Mr. Rose informed me that he had calculated a unit transportation cost level for determining the demand for capacity and assessing the economic feasibility of connecting existing power plant market to the SunShine system. The unit transportation calculated by Mr. Rose, which he characterized as a levelized annuity for a thirty year period in 1991 dollars, was \$0.65 per Mcf. Mr. Rose stated that this figure represented a benchmark cost, at or below which it would be economically feasible for SunShine to access existing power plants. As a result of this call from Mr. Rose, I consulted with ANR's Facilities Planning Department to determine whether SunShine could provide service to the existing power plants in Florida for a cost equal to or less than Mr. Rose's \$0.65 per Mcf benchmark. I also determined with the assistance of the Facilities Planning Department whether it was

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technically feasible to connect the plants. After consultation I allocated the plants into four categories: Economic to Serve, Proximate to the Pipeline; Potentially Economic to Serve; Less Economic to Serve and Not Economic to Serve. The Not Economic to Serve category includes only plants in the Florida Keys.

Technical Feasibility

The criteria used to determine the technical feasibility of accessing existing power plant facilities in Florida to the SunShine system included (1) consideration of the general proximity of the power plants to SunShine's proposed corridor, (2) the physical reconnaissance of the routes from such corridor to the power plants as well as the actual plant sites; (3) a topographical map study where physical reconnaissance could not be performed; and (4) my own personal evaluation based upon my experience in connecting electric power plants to a pipeline system. Based upon this criteria, my conclusion is that it is indeed technically feasible for SunShine to access those existing power plants shown on Exhibit A to Mr. Rose's Rebuttal Testimony that are designated, "Economic to Serve, Proximate the Pipeline," "Potentially Economic to Serve," and "Less Economic to Serve."

For the area categorized as "Economic to Serve, Proximate to the Pipeline", the route of the SunShine system was chosen to give direct access to the power plants located in the Tampa/St. Petersburg area. The proposed corridor for SunShine is adjacent to or very near to the power plants located in this category.

With respect to those existing power plants designated as "Potentially Economic to Serve" on said Exhibit A, I concluded that such plants are technically feasible to serve on the basis of actual route and site reconnaissance undertaken for those power plants in the Jacksonville area (Kennedy, Northside and Southside plants) and the Martin Plant units. Topographic map analysis was performed for the Cape Canaveral Area plant locations. In the "Less Economic to Serve" category, the physical reconnaissance of the Port Everglades site was undertaken and based upon my own experience in connecting power plants to transmission systems, I came to the conclusion that both the Port Everglades and Ft. Myers sites are technically feasible to access. We did not evaluate the technical feasibility of connecting to the existing power plants in the Florida Keys.

Economic Feasibility

For purposes of analyzing the economic feasibility of accessing the existing power plants in Florida to the SunShine system, I accepted Mr. Rose's benchmark unit transportation cost figure of \$0.65 per Mcf as a threshold cost to equal or beat. According to Mr. Rose, this \$0.65 is equivalent to an annuity of \$1.08 in nominal dollars for the 1995 to 2019, 25 year period, assuming annual inflation of 4%. In our analysis, we made the following assumptions: (1) the Aggregate Rate Cap for the SITCO and SunShine transportation rates for the initial year of service is 71.8 cents per MMBtu; and (2) the cost per 100 miles on a twenty year levelized basis for a 20" lateral transporting 125,000 Mcf per

day is approximately \$0.24 per Mcf. Based upon these assumptions, I have concluded that SunShine can access existing power plants on an economically feasible basis in the Economic to Serve Proximate to the Pipeline; and the Potentially Economic to Serve categories. This conclusion is supported by the calculations shown on the top part of Attachment 1 to this memorandum.

For the Port Everglades area, which is classified as "Less Economic to Serve (Requires greater than or equal to 200 MMcf/d)," an additional analysis which utilized a 24" lateral capable of transporting 200 MMcf/d was prepared. The cost per 100 miles on a twenty year levelized basis for a 24" lateral is approximately \$0.19 per Mcf. Based upon these assumptions, I have concluded that SunShine can access existing power plants in the Port Everglades area, with a volume commitment of 200 MMcf/d or more.

In my opinion, this determination that I have reached regarding economic feasibility is conservative for several reasons. First, the 71.8 cents per MMBtu Aggregate Rate Cap is applicable to the proposed 1995 in-service date. I anticipate that the actual aggregate rate charged by SITCO and SunShine on the in-service date will be less than the applicable cap. Second, our calculations are based upon the presumption that SunShine's mainline system will not be expanded to provide access to these existing power plants. Should a mainline expansion be required, the rolled-in rate treatment shown on the bottom part of Attachment 1, will produce a lower unit transportation rate to all SunShine customers. This is based on our estimated mainline expansion cost per 100 miles of

\$0.065 per Mcf. Lastly, the \$0.24 per Mcf lateral construction cost and the \$0.065 mainline expansion cost are both calculated for the year 2000. In the event the mainline expansion or construction of laterals occurs earlier, a further savings to the shipper will occur.

In regards to the category, "Less Economic to Serve (Requires greater than or equal to 200 MMcf/d)," because my economic assumptions are conservative, the power plants in the Port Everglades area are also economically accessible. Furthermore, even if my conservative assumptions are used, the economics for serving the Port Everglades power plants improve and result in the accessibility of the plants for volumes greater than 200 MMcf/d.

In conclusion, I have determined that accessing existing power plants in Florida is both technically and economically feasible, except for those plants in the Florida Keys.

Attachment 1

Summary of Economics to Serve Various Market Areas

Existing System Aggregate Project Rate Plus Incremental Lateral Cost				
Areas	Mainline Rate (\$/Mcf)	Miles of Haul	Lateral Rate (\$/Mcf)	Total Cost (\$/Mcf)
Economic to Serve/Proximate to the Pipeline				
Tallahassee	\$0.72	0	\$0.00	\$0.72
Gainesville	\$0.72	35	\$0.08	\$0.80
Potentially Economic to Serve				
Jacksonville area	\$0.72	110	\$0.27	\$0.99
Cape Canaveral area	\$0.72	75	\$0.18	\$0.90
Martin area	\$0.72	110	\$0.27	\$0.99
Less Economic to Serve (Requires greater than or equal to 200 MMcf/d)				
Port Everglades area - 20" lateral (125 MMcf/d)	\$0.72	205	\$0.49	\$1.21
Port Everglades area - 24" lateral (200 MMcf/d)	\$0.72	205	\$0.39	\$1.11
Fort Myers area	\$0.72	75	\$0.18	\$0.90

Incremental Mainline Expansion Cost Plus Incremental Lateral Cost					
Areas	Miles of Haul	Mainline Rate (\$/Mcf)	Miles of Haul	Lateral Rate (\$/Mcf)	Total Cost (\$/Mcf)
Economic to Serve/Proximate to the Pipeline					
Tallahassee	303	\$0.20	0	\$0.00	\$0.20
Gainesville	403	\$0.26	35	\$0.08	\$0.34
Potentially Economic to Serve					
Jacksonville area	403	\$0.26	110	\$0.27	\$0.53
Cape Canaveral area	520	\$0.34	75	\$0.18	\$0.52
Martin area	565	\$0.37	110	\$0.27	\$0.64
Less Economic to Serve (Requires greater than or equal to 200 MMcf/d)					
Port Everglades area - 20" lateral (125 MMcf/d)	565	\$0.37	205	\$0.49	\$0.86
Port Everglades area - 24" lateral (200 MMcf/d)	565	\$0.37	205	\$0.39	\$0.76
Fort Myers area	565	\$0.37	75	\$0.18	\$0.55

SUNSHINE EXPANSION COST SUPPORT

Mainline Expansion

	Base System	Year 2000	Increase
	<u>As-Filled</u>	<u>Proposed</u>	
SITCO			
Flow (MMcf/d)	638.8	786.2	120.0 + Fuel
Investment (\$MM)	\$197.0	\$234.2	\$37.2
Rate (\$/Mcf)	\$0.148	\$0.142	.
COS (\$MM)	\$34.5	\$39.7	\$5.2

Incremental Rate (\$/Mcf) \$0.118

SunShine

Flow (MMcf/d)	549.5	669.5	120.0
Investment (\$MM)	\$618.9	\$692.8	\$73.9
Rate (\$/Mcf)	\$0.525	\$0.473	.
COS (\$MM)	\$105.3	\$115.8	\$10.3

Incremental Rate (\$/Mcf) \$0.235

Total

Flow (MMcf/d)		120.0
Investment (\$MM)		\$111.1
Rate (\$/Mcf)		.
COS (\$MM)		\$15.5
Miles of Haul		540.0

Total Mcf Rate per 100 Miles

\$0.065

20 Inch Lateral Cost

	<u>Facilities</u>	<u>Investment</u>	<u>Rate</u>
Jacksonville Lateral	110 Mi.- 20" plus 1 meter -	\$86.3 million	\$0.265 /Mcf
	at 125 MMcf/d and 14% COS (incremental)		
	Based on \$635,000/mile for 20 inch pipe plus		
	\$1 million for a meter, escalated 4% per year from 1994 to 1999.		

Total Rate per 100 Miles

\$0.241

24 Inch Lateral Cost

Incremental cost is 125% of 20 " cost

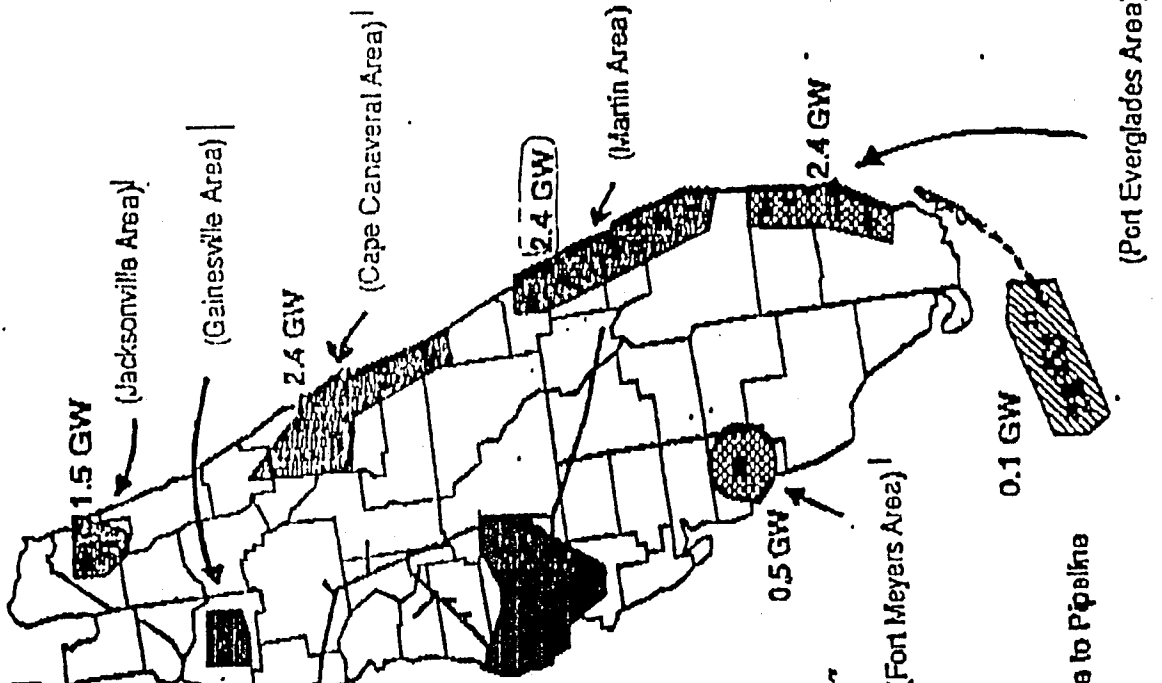
Incremental capacity is 160% of 20 " capacity

Total Rate per 100 Miles(\$.241 x 1.25/1.6)

\$0.188

Exhibit A

Sunshine Pipeline Route



Oil/Gas Steam Powerplants

- | | |
|---------------------------------------|-------------------------------------|
| 1 Turner (FPC) - 145 MW | 17 Hopkins (Tallahassee) - 328 MW |
| 2 Higgins (FPC) - 123 MW | 18 Purdom (Tallahassee) - 128 MW |
| 3 Barlow (FPC) - 442 MW | 19 Hooker's Point (TECO) - 208 MW |
| 4 Suwannee River (FPC) - 147 MW | 20 Cape Canaveral (FPL) - 740 MW |
| 5 Aucilla (FPC) - 1034 MW | 21 Cutler (FPL) - 208 MW |
| 6 King (Fort Pierce) - 88 MW | 22 Fort Meyers (FPL) - 508 MW |
| 7 Deershaven (Gainesville) - 51 MW | 23 FL Lauderdale (FPL) - 276 MW |
| 8 Kelly (Gainesville) - 78 MW | 24 Port Everglades (FPL) - 1148 MW |
| 9 Crist (GPC) - 75 MW | 25 Riviera (FPL) - 548 MW |
| 10 Kennedy (Jacksonville) - 215 MW | 26 Sanford (FPL) - 871 MW |
| 11 Northside (Jacksonville) - 1023 MW | 27 Turkey Point (FPL) - 740 MW |
| 12 Southside (Jacksonville) - 255 MW | 28 Manatee (FPL) - 1580 MW |
| 13 Tom Smith (Lake Worth) - 65 MW | 29 Martin (FPL) - 1580 MW |
| 14 Lajen (Lakeland) - 96 MW | 30 Key West (Key West) - 70 MW |
| 15 McInosh (Lakeland) - 88 MW | 31 Stock Island (Key West) - 37 MW |
| 18 Indian River (Orlando) - 618 MW | 32 Vero Beach (Vero Beach) - 116 MW |

Total Oil/Gas Steam Capacity = 13.7 GW

	Less Economic to Serve (Requires >= 200 MW/ACFD to Serve)		Economic to Serve/Proximate to Pipeline
	Potentially Economic to Serve		Not Economic to Serve

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