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## M E M O R A N D U M

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**TO:** Brad Williams and David Sharp – Floridian Natural Gas Storage Company, LLC  
**FROM:** Concentric Energy Advisors, Inc.  
**DATE:** October 27, 2008  
**RE:** Revised Economic Analysis

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Concentric Energy Advisors, Inc. (“Concentric”) prepared a report titled: “Assessment of the Florida Natural Gas Market and the Floridian Natural Gas Storage Facility,” dated August 20, 2008. Concentric’s report documents the projected rapid growth in Florida’s natural gas demand for power generation and evaluates the role Floridian Natural Gas Storage Company LLC’s (“FGS”) proposed natural gas storage project (the “Project”) can play in serving projected incremental gas peaking demand. Concentric’s evaluation includes a comparative economic analysis of three different options for reliably serving Florida’s future peak gas demand in excess of existing pipeline capacity (i.e., incremental gas peaking demand):

1. 400,000 MMBtu per day of year-round firm pipeline capacity from the Gulf Coast supply area to the Florida market area (Transportation Only);
2. 8 million MMBtu of out-of-state Gulf Coast high deliverability storage capacity with 400,000 MMBtu per day of storage deliverability plus 400,000 MMBtu per day of year-round firm pipeline capacity from storage to the Florida market area (Production Area Storage and Transportation); and
3. 8 million MMBtu of in-state storage capacity and 400,000 MMBtu per day of deliverability from the Project (FGS service).

Concentric’s comparative economic analysis estimates the annual fixed costs associated with building the infrastructure necessary to provide the firm natural gas deliverability for each option. The analysis also includes estimated annual cost savings attributable to the following activities:

- For options 1 and 2 above, the customer can release (resell) the reserved firm pipeline capacity when not needed for delivering gas to Florida
- For options 2 and 3 above, the customer can use storage to avoid peak period gas costs (Concentric separately estimated this value including and excluding 2005, a year of unusual avoided gas cost value associated with Hurricanes Katrina and Rita)



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To ensure the comparability of the three service options, the analysis provides that each option includes 400,000 MMBtu per day of firm deliverability to serve incremental peak day requirements. Option 1 includes 400,000 MMBtu per day of new pipeline capacity only. Options 2 and 3 utilize gas storage service to meet peaking gas requirements; in each case, the analysis assumes a customer contracts for 8 million MMBtu of storage capacity and 400,000 MMBtu per day of deliverability from storage. In both options 2 and 3, the analysis assumes the customer fully utilizes the 8 million MMBtu of contracted storage capacity twice each year, (i.e., two annual turns of the capacity), for a total of 16 million MMBtu of annual deliveries. Options 2 and 3 differ only with respect to the assumed level of daily storage injection service. For option 2, Concentric's analysis assumes the customer contracts for 266,667 MMBtu per day of storage injection service (i.e., 30 days to fill capacity), a level in line with industry practices for new multi-cycle Gulf Coast storage facilities. For option 3, the analysis assumes 50,000 million MMBtu per day of injection (liquefaction) service (i.e., 160 day fill), the minimum level offered by FGS.

The results of the August comparative economic analysis are as follows:

	<b>Transportation Only (annual \$)</b>	<b>Production Area Storage and Transportation (annual \$)</b>	<b>FGS service (annual \$)</b>
<b>Case 1: Excludes 2005</b>	\$ 156,865,321	\$ 150,658,358	\$ 123,447,094
<b>Case 2: Includes 2005</b>	\$ 156,865,321	\$ 141,219,861	\$ 115,522,513

FGS has now asked Concentric to revise the August comparative economic analysis to address the following issues and clarify that the analysis treats each option on a fully comparable basis:

- As noted previously, the August analysis includes both the annual fixed costs associated with contracting for incremental firm pipeline and storage capacity plus estimated annual cost savings attributable to pipeline capacity release and storage-related avoided gas costs. The results presented above mask the fact that there is significant potential value associated with the cost savings activities. For example, the high daily injection rights in option 2 result in avoided gas cost savings that more than offset the fixed costs associated with buying the storage capacity. Thus, the estimated annual cost of service for option 2 is less than option 1, even though in each case the customer pays the same amount to contract for 400,000 MMBtu/day of new pipeline capacity to deliver gas into Florida during peak periods.



Although the opportunities to avoid peak period gas costs (and capture capacity release revenue) are real and the economic value associated with these activities is potentially significant, estimating gas cost savings is less precise than estimating the fixed cost of contracting for new pipeline and storage capacity. For example, the August analysis estimates these values by referring to historic market conditions which may not be applicable in the future. Therefore, in the revised comparative economic analysis we focus solely on the annual capacity costs required to deliver incremental peak day gas into the Florida market under each of the three options and ignore the potential annual cost savings associated with holding firm pipeline and storage capacity year-round (i.e., the capacity release revenue and avoided gas costs).

- On August 29, 2008, the FERC granted FGS a certificate to build the Project and to offer up to 100,000 MMBtu per day of storage injection service and 800,000 MMBtu per day of storage withdrawal service (i.e., twice the injection and withdrawal levels assumed in the August 20<sup>th</sup> economic analysis). Concentric understands that FGS is offering to contract with potential customers for the maximum certificated injection and withdrawal levels at the same price assumed in our economic analysis. Therefore, in the revised comparative economic analysis we estimate the annual capacity costs at two different FGS service levels: (i) 50,000 MMBtu per day of injection and 400,000 MMBtu per day of deliverability (the August analysis); and (ii) 100,000 MMBtu per day of injection and 800,000 MMBtu per day of deliverability (the currently offered FGS service level).

The following table presents the results of the revised comparative economic analysis.<sup>1</sup>

	<b>Transportation Only (annual \$)</b>	<b>Production Area Storage and Transportation (annual \$)</b>	<b>FGS service (annual \$)</b>
<b>400,000 MMBtu per day</b>	\$ 167,900,000	\$ 202,594,400	\$ 137,880,000
<b>800,000 MMBtu per day</b>	\$ 335,800,000	\$ 370,494,400	\$ 137,880,000

At the 400,000 MMBtu per day deliverability level (the same level assumed in the August analysis), these revised results highlight the economic advantage of utilizing the Project as a peaking resource

<sup>1</sup> Note that the August analysis includes two cases to show the effect of avoided gas cost savings on the annual delivered cost of peaking gas (i.e., with and without the hurricane year of 2005). In this revised analysis Concentric ignores the cost saving activities included in the August analysis (i.e., firm pipeline capacity release and avoided cost savings); therefore there is no reason to show the two cases from the August analysis.



relative to the other two service options.<sup>2</sup> This advantage is vastly magnified at the 800,000 MMBtu per day level now offered by FGS. The Project's overwhelming advantage as a peaking resource is a direct result of its location – FGS is proposing to build the Project in the heart of the Florida market connected to both of the major interstate pipelines serving Florida. As explained in the August 20<sup>th</sup> report and in Concentric's September 26<sup>th</sup> "Discussion Issues" memorandum, the Project's location provides customers operational flexibility unavailable to out of state gas supplies (i.e., options 1 and 2). Whereas out-of-state supplies require new firm, 365-day pipeline capacity to ensure delivery into the Florida market during peak demand periods when all existing pipeline capacity is being fully utilized, the Project allows customers to utilize existing pipeline capacity more efficiently to effect gas deliveries nearly anywhere on the interstate pipeline grid in Florida through backhaul or capacity segmentation.<sup>3</sup>

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<sup>2</sup> As mentioned, the revised analysis results ignore the potential annual cost savings associated with pipeline capacity release (options 1 and 2) and avoided peak period gas purchases (options 2 and 3). A comparison of the results of the 400,000 MMBtu per day deliverability case in the revised analysis to the results of the August analysis indicates the relative magnitude of such potential annual cost savings.

<sup>3</sup> In both the August analysis and the revised analysis, Concentric assumes that customers contracting for FGS storage service pay \$0.77 per MMBtu for all gas delivered from the Project. For reasons explained in the August 20<sup>th</sup> report and September 26<sup>th</sup> memorandum, customers holding firm pipeline capacity may be able to utilize capacity segmentation to avoid some or all of this cost.