

# Gulfstream Natural Gas System

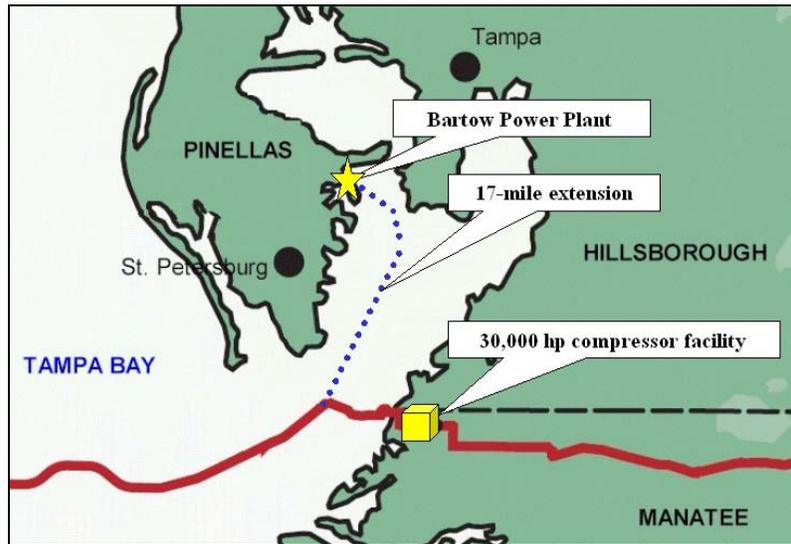
## Phase IV Expansion

April 2006

### About Gulfstream

Placed into service in May 2002, Gulfstream Natural Gas System is a 691-mile natural gas transmission pipeline, delivering about one-quarter of the natural gas consumed in the State of Florida.

As one of the fastest-growing states in the U.S., Florida's demand for natural gas is steadily increasing. In fact, the Florida Reliability Coordinating Council predicts the state's need for natural gas will increase by about 1.5 billion cubic feet per day in the next decade.



### 2009 Expansion

Progress Energy has announced plans to modify its Bartow Power Plant in Pinellas County to double its electric generating capacity and allow it to burn cleaner-burning natural gas. The modifications will increase plant output by 600 megawatts – or enough to power about 380,000 homes. The conversion is estimated to reduce emissions of sulfur dioxide, nitrogen oxides and particulates by more than 90 percent.

Gulfstream has reached an agreement with Progress Energy to provide natural gas to the Bartow Power Plant. This will require constructing a 17.5-mile, 20-inch diameter pipeline connecting the existing Gulfstream pipeline to the Progress facility. Gulfstream is currently working to identify an underwater route, taking special consideration to avoid or minimize impact to soft, hard bottoms and sea grasses.

In addition, Gulfstream intends to construct a compressor facility in Manatee County to allow the pipeline to continue to serve the growing demand for natural gas in the state. Gulfstream is evaluating locations for the compressor facility that minimize residential and environmental impacts.

### Pipeline Safety

According to DOT, pipelines are the safest method for transporting energy. In more than three years of operations, the Gulfstream pipeline has never had a pipeline incident.

### Project Benefits

- Reduce air emissions
- Increase reliability of existing energy infrastructure
- Decrease barge traffic on Tampa Bay
- Annual ad valorem tax benefit is expected to be approximately \$500,000 in Manatee, \$700,000 in Hillsborough and \$83,000 in Pinellas counties.

### Contact

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### Project Schedule

**March 2006**

Survey

**April 2006**

FERC Pre-Filing

**June 2006**

Public Meetings

**December 2006**

FERC Filing

**January 2008**

Construction

**January 2009**

In-Service

# Gulfstream Natural Gas System

## Phase IV Expansion – Bartow Lateral

April 2006

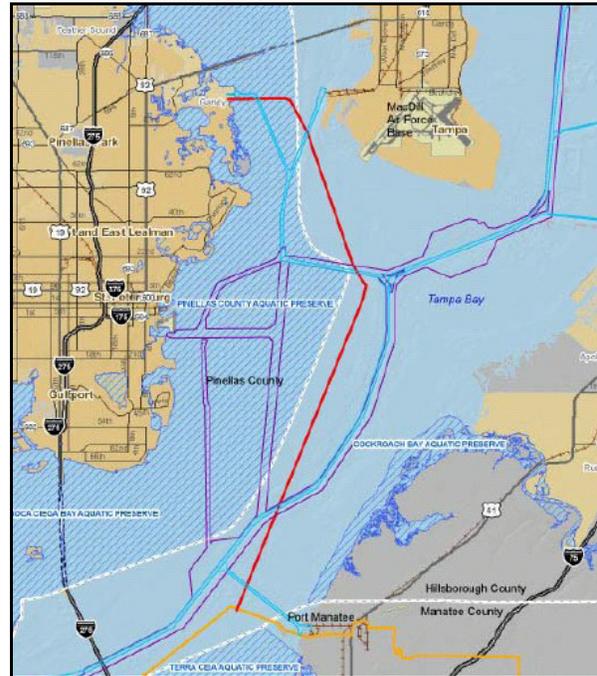
### Overview

A proposal is currently being developed to construct additional pipeline facilities in Tampa Bay to provide natural gas from Gulfstream to the Bartow Power Plant in Pinellas County. Gulfstream is developing a plan to construct a 17.5-mile, 20-inch pipeline lateral to connect the existing Gulfstream pipeline to the Progress facility.

Gulfstream is currently working to identify an underwater route, taking special consideration to avoid or minimize impact to hard bottoms and sea grasses.

### Proposed Route

The proposed route extends 17.5 miles from the existing Gulfstream pipeline in the vicinity of Port Manatee north across the middle bay to the existing Bartow Power Plant on the east shore of St. Petersburg. Gulfstream is committed to working with appropriate environmental agencies to identify a route that ensures the least environmental disturbance.



### Sub-sea Survey

In early 2006 Gulfstream researchers surveyed a 1,000 foot-wide corridor in Tampa Bay to examine the seafloor for hard-bottoms, submerged aquatic vegetation, archeological points of interest and potential construction hazards. The data generated from these surveys has helped Gulfstream identify environmentally sensitive areas to be avoided for planning the proposed pipeline route. Surveys were conducted using magnetometer, side scan sonar, sub-bottom profiler, and echo sounder technology.

### Construction Methods

Offshore construction will consist of two primary construction methods:

- Horizontal directional drilling - This technology will enable Gulfstream to avoid sensitive environmental areas and also cross existing waterways (or channels), while burying the pipe at depths greater than could be achieved with traditional trenching. Gulfstream is planning at least five of these drills.
- Pipe-lay barge - A shallow-water pipe-lay barge capable of laying approximately 4,000 feet of pipe per day. The barge is approximately 500 feet long and houses seven workstations and 130 workers. Pipe-lay construction will last approximately two months. Other supporting barges perform mechanical dredging to create the pipe trench.



All offshore pipe will be concrete-coated and buried a minimum of three feet deep. Each 40-foot section of concrete coated pipe weighs about 15 tons.

### Contact

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# Gulfstream Natural Gas System

## Phase IV Expansion – Compressor Facility

April 2006

### Overview

A proposal is currently being developed by Gulfstream to construct a 30,000-hp natural gas pipeline compressor facility in Manatee County, Fla. Gulfstream's objective is to site the facility on a location that minimizes residential and environmental impacts. The company is evaluating one location in an industrial area of northwestern Manatee County – an 80-acre tract located north of Buckeye Road, east of the Piney Point Phosphate Plant.



### Siting Criteria

There are a number of factors that must be taken into consideration when choosing suitable location for a compressor facility. Some of the factors that must be considered include local zoning restrictions and physical constraints such as:

- Proximity to the existing pipeline
- Access to electric power
- Pipeline hydraulics
- Compatible with zoning, land use and land development
- Site terrain
- Water table and storm water management
- Site accessibility

The pipeline company must also evaluate a number of environmental factors, including potential impacts on:

- Residents
- Threatened & endangered species
- Wetlands, water bodies & groundwater
- Fish, vegetation and other wildlife
- Cultural resources
- Geology
- Soils
- Land use
- Air and noise quality

### Compressor Facilities

Compressor stations, sometimes called pumping stations, are the "engine" that powers an interstate natural gas pipeline. Most compressor stations are completely automated, so the equipment can be started or stopped from a pipeline's central control room. The control center also can remotely operate shut-off valves along the transmission system. The operators of the system keep detailed operating data on each compressor station, and continuously adjust the mix of engines that are running to maximize efficiency and safety.



### Safety Features

The proposed facility will be operated in accordance with all applicable safety standards established by the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration. Some of those safety features include:

- Continuously monitored 24 hours a day / 365 days a year from Gas Control Center.
- Automation system allows compressors to be started, controlled and stopped remotely at any time.
- Automation system protects the facility & surrounding area if equipment is not operating correctly.
- Remotely operated station shut-off valves.
- Extensive emergency systems include sophisticated sensors to detect leaks or fire.
- Sufficient fenced buffer ensures that in case of an emergency, neighbors are kept at a safe distance.