

As we begin work on the LNG Trucking Facility, we understand our neighbors in the Savannah community may have questions about liquefied natural gas (LNG). These frequently asked questions may be helpful.

What is LNG?

LNG, or liquefied natural gas, is natural gas that has been cooled to -260 degrees Fahrenheit. When cooled to this temperature, natural gas converts from a vapor to a liquid. Natural gas is colorless, odorless and non-toxic.

Why liquefy natural gas?

Liquefying natural gas reduces its volume by more than 600 times, making it more practical to store and transport. If natural gas were transported by vessel in its gaseous state, it would take 600 tankers to transport an amount of gas equivalent to that carried by one LNG tanker.

How do you liquefy natural gas?

Natural gas is converted to a liquid state through a refrigeration process located at export facilities. These facilities are called liquefaction plants.

Where does LNG come from?

LNG primarily comes from areas where large gas discoveries have been made. Exporters of LNG include Indonesia, Malaysia, Trinidad, Equatorial Guinea, and Egypt. LNG is imported by many countries, including European countries, Japan and the United States. In Japan, 97 percent of the natural gas consumed comes from LNG.

How is LNG transported?

LNG is transported overseas in large ships specially designed to safely store LNG at temperatures near -260 degrees Fahrenheit. These ships are double hulled and are about 900 feet long and 140 feet wide. LNG ships are required to meet international maritime construction and operating standards as well as rigorous U.S. Coast Guard safety and security regulations.

How is LNG ultimately beneficial to U.S. citizens?

LNG supplements America's natural gas supply. Natural gas is used in residential homes and businesses for cooking and to provide heat and hot water, in many industrial applications, and to fuel power plants and vehicles. The U.S. and Canadian natural gas markets are expected to grow from 26.8 trillion cubic feet in 2008 to between 31.8 and 36 trillion cubic feet in 2030. In order to meet that demand, LNG is expected to play a role in each country's energy mix.

Will LNG explode?

No, LNG is not explosive or flammable in its liquid state.

Will LNG burn?

No, LNG is a liquid that does not burn because it does not contain oxygen. (Vapor from LNG can burn, as addressed in the following questions.)

What happens if LNG spills?

If LNG spills, it will vaporize. The resulting vapors will warm, expand and become lighter than air. The vapors will disperse with the prevailing wind.

What is the risk from a vapor cloud?

The risk from a vapor cloud is the potential for a fire. If ignition of a vapor cloud were to occur, the flame would burn slowly back through the vapors to the point of release. Unconfined methane vapor clouds cannot explode.

When will a vapor cloud burn?

LNG vapors are flammable if they exist at a 5 - 15 percent concentration in air. If the vapor concentration is lower than 5 percent, it cannot burn because of insufficient fuel. If the vapor concentration is higher than 15 percent, it cannot burn because there is insufficient oxygen. For LNG to pose a fire hazard, an unlikely series of events must occur: 1) a spill or other release from designed containment system; 2) conversion of the LNG into vapor; 3) the mixing of vapors with air in a 5 - 15 percent ratio; and 4) contact of the air/vapor mix with an ignition source. If LNG vapors were to ignite, flames would burn back along the vapor path toward the source of the spill.

What does an LNG import terminal look like?

An LNG import terminal consists of one or more docks, one or more LNG storage tanks, vaporizers and other equipment to transform the LNG from a cold liquid back into a gaseous state, and piping to transport the LNG and gaseous product through the plant to a natural gas transportation pipeline.

Where is the Southern LNG terminal?

The terminal is located on Elba Island near Savannah, Georgia.

Who provides security at the terminals?

The owners of the facilities handle terminal security. Security measures include access by authorized personnel only; manning facilities 24 hours a day / 365 days a year; fencing along the perimeter of the facility; motion detection on the fencing; closed-circuit TV; lighting; and operator inspections of the facility at regular intervals.

Who is responsible for regulations that apply to Elba Island terminal?

The Elba Island terminal is regulated by the Federal Energy Regulatory Commission, U.S. Coast Guard, Department of Transportation, Georgia Environmental Protection Division and U.S. Army Corps of Engineers.

How does LNG compare in terms of safety hazards to other substances handled in ports, land-based facilities, on roadways and on railways?

LNG is not explosive, toxic, carcinogenic or chemically reactive, except for burning which is its value as a fuel source. The vapors are lighter than air. If a spill occurs, the vapor will rise and dissipate, leaving no trace in the environment. The flame speed of an unconfined cloud is slow and will not explode. By contrast, gasoline and oil are extremely flammable and, in their liquid states, are toxic. There is a significant environmental impact if these hydrocarbons are spilled.

What is done to assure that LNG ships and land-based facilities are designed and built for safety of operation and to protect the public?

Public safety and protection are enhanced by the following: (a) terminals sited, designed and constructed in compliance with applicable codes and regulations; (b) approval of design and construction of LNG vessels by a classification society, such as the American Bureau of Shipping; (c) pre-arrival inspections of facilities and ships by the U.S. Coast Guard; (d) safety and code compliance audits conducted by qualified third parties; (e) initial and ongoing training programs for all terminal personnel; and (f) integrated emergency response plans that include local emergency resources.

What safety features exist at the onshore facilities?

Safety features at the onshore facilities include: methane detectors, ultraviolet or infrared fire detectors; closed-circuit TV; offsite monitoring; training requirements for personnel and restricted access. Additionally, storage tanks are surrounded by dikes that will contain 125 percent of the tank's maximum capacity.

What safety measures are in place on the unloading piers?

The unloading piers have the following safety measures: emergency shutdown systems; closed-circuit TV; vapor and fire detection systems; and emergency release couplings on the unloading lines. The ships' crews are not allowed into the LNG terminal.

What safety features are on board the ships?

The ships' safety systems are divided into ship handling and cargo handling systems. The ship handling includes sophisticated radar and positioning systems that alert the crew to other traffic and hazards around the ship. There are also distress systems and beacons that automatically send signals if the ship is in difficulty. The cargo handling system has an extensive instrumentation package that safely shuts down the system if it starts to operate out of predetermined parameters. There are also gas and fire detection systems.

What is the role of the U.S. Coast Guard at the Elba Island terminal?

Members of the U.S. Coast Guard board all tankers for inspection before docking at the terminal. This procedure is repeated following unloading of the LNG and prior to the ship's departure.

What security measures are currently in place at the Elba Island terminal?

Southern LNG does not discuss security plans or procedures but works closely with the U.S. Coast Guard to satisfy and adhere to all applicable regulations in regards to security.

What is the safety record of LNG facilities in the U.S.?

LNG regasification terminals have an outstanding safety record and have been operating without incident for decades.

What is the safety record at the Elba Island terminal?

The terminal at Elba Island first opened in the 1970s. There has never been an incident that has jeopardized the safety of the terminal's personnel or the neighboring community.

What is the Southeast LNG Distribution Project?

SLNG is proposing to construct, install and modify the existing truck-loading facilities at Elba Island. The facilities include refueling dispensers and a measurement station. The truck-loading facilities will be modified and constructed in two phases. Phase I consists of modifying and replacing equipment for two existing truck-loading bays, and Phase II consists of two additional truck bays and additional equipment.

Who will regulate the trucking facility?

SLNG must obtain permission from the Federal Energy Regulatory Commission (FERC) in order to build and operate the trucking facility. FERC will review the application for compliance with all state and federal environmental laws before approving the project.

When will FERC complete its review and decide whether to allow the LNG trucking facilities to be built?

SLNG filed its request for authorization with FERC requesting permission to construct and modify the facilities in August, 2010. FERC review process will take approximately six to nine months to complete. If approved, construction activities are expected to commence no later than July, 2012, and the facilities would begin operations by November, 2012.

How do I contact FERC directly?

You may call or write FERC at this address:

Federal Energy Regulatory Commission
Office of External Affairs
888 First Street, N.E.
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Toll-free: 1-866-208-3372
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