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LNG Company Says Offshore Site Would Be Secure

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A terrorist attack or equipment disaster at a proposed liquefied natural gas unloading facility 10 miles off Gloucester would not produce a fire large enough to burn people or buildings on shore, officials from the Texas company planning the terminal say.

A detailed report of what would happen if an LNG tanker at a shoreside unloading facility were attacked was released in late December. The report described people and buildings in Boston burned up to a third of a mile away from the Everett LNG facility.

There is no study detailing the possible effects of a similar disaster at an offshore terminal, like the one proposed by Excelerate Energy LLC off Gloucester.

If liquefied natural gas were to leak or spill from a tanker while it was offloading at the proposed buoy system off Gloucester, the zone of impact around the spill would be roughly 1.5 miles, Excelerate Energy Vice President Rob Bryngelson said.

A 160-page report was released Dec. 20 by Sandia National Laboratories, a government nuclear weapons lab. The yearlong study provides the most detailed analysis to date of the potential public safety impact of a terrorist attack on an LNG transport tanker.

The report calls for putting in place the most stringent security measures possible to protect tankers from terrorist attacks but does not go as far as prohibiting tankers from carrying LNG through heavily populated areas.

Excelerate says it is using computer generated models and consulting think tanks to come up with a "consequence study" to be included in its application for the Cape Ann project to the federal government, which it plans on filing by May.

"What we've seen is pretty consistent with the Sandia report," Bryngelson said.

Liquefied natural gas stored in tanks in the hulls of ships will dock at two underwater buoys 10 miles off Gloucester. The liquified gas would then be then changed into regular gas by a vaporization process that can be done aboard the ship. The gas would then be sent into a pipeline buried in the ocean floor that connects to consumers on land.

In the event of a spill or leak, the liquid natural gas vaporizes as it warms and disperses into the air. If the concentration of natural gas in the air is between 5 percent and 15 percent it catches fire and burns from the outside edges to the middle.

According to the Sandia report, a pool of LNG released into the water and then ignited as it vaporized would create a giant fireball that would expand outward to a distance twice the size of the pool itself. Even if that were to happen, Bryngelson said, it could not harm people 10 miles away onshore.

"Because the fire burns back toward the source, the fireball becomes quite small," said Exceleerate operations manager Mark Lane.

The Coast Guard enforces a 500-meter clear zone around the tankers at the unloading facility and crews aboard the tanker keep a 10-mile watch at all times, Lane said.

The ships are double-hulled and the tanks of gas on board are also double-layered. Three series of automatic shut-down valves also protect the ship to pipeline off-loading process, Lane said.

"Obviously, we have to accept the fact that a collision with a particular angle of attack and velocity could cause that type of failure," said Lane, who has been involved in the LNG business since the late 1970s.

In the worst-case scenario — the largest spill and the worst weather conditions — the maximum distance affected by the disaster would be in the 2.5 mile range, Bryngelson said.

Gloucester Mayor John Bell, who has opposed Exceleerate's plan for an LNG facility from the start, said the company is contradicting themselves by claiming that there are minimal safety concerns 10 miles offshore. He reiterated the only other facility like the one proposed off Gloucester isn't even operational yet. Exceleerate is building a similar facility 100 miles offshore in the Gulf of Mexico, which is set to go online sometime this spring.

Bell said paperwork filed by Exceleerate during the application process for that project outlines concerns at 10 miles out.

"Why did they go so far off shore? Why was that their recommendation in the Gulf of Mexico but not here in Mass. Bay?" Bell argued.

Gloucester dragger fisherman Joe Orlando said he doesn't want to rely on the company to provide critical information about safety.

"This is not about safety at all; this is all about big money," he said. "If an accident happens out there we don't know if it worse or safer. There has been no study of that whatsoever by anyone outside their company."

Orlando said he was also concerned that an explosion at the facility would cause a substantial wave that could wash over Gloucester. Bryngelson and Lane said they didn't believe a wave would be possible because the nature of LNG.

"There's a difference between an explosion and a fire. Natural gas does not explode in the open environment," Lane said.