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MEETING WITH CABOT CORP. ²
REPRESENTATIVES
Monday, September 22, 1975
2:00 p.m.

Mr. Cannon's Office

James
Andrews
Fitz
Cannon

What are
we doing
administratively



CABOT CORPORATION PRESENTATION

ON LNG SAFETY

SEPTEMBER 1975

LIQUEFIED NATURAL GAS:

A SAFE, CLEAN ADDITION TO OUR ENERGY SUPPLY

Imports of liquefied natural gas (LNG) can help supply clean energy at competitive costs, now and in the future, in a form and at locations where energy supply is critically short. Precautions are necessary, though. As a fuel, LNG presents certain risks. As a cryogenic liquid, it requires special materials and handling procedures.

The LNG industry has taken the necessary precautions. Cryogenic tank ships, storage tanks and handling facilities are designed for enormous reliability and safety. The industry and government have sponsored safety research and large-scale tests which have been reported in public documents, at scientific meetings and at public hearings before Federal agencies and Congressional committees. Federal regulation of LNG safety has been enacted, and it is exercised. The ten-year safety record of the world-wide LNG trade is testimony to the effectiveness of properly conducted operations. Nevertheless, concern has been expressed that there could be large-scale accidents by fire or explosion where LNG is terminalled in heavily populated port cities. Let us examine the substance of such concerns.

SAFETY ISSUES

A. Energy Content

Issue: Critics point out that the energy contained in a loaded LNG tanker is larger than that of the Hiroshima bomb.

Perspective: It is completely misleading to make such a comparison. The destructiveness of an atomic bomb depends on its ability to release energy instantaneously. There is no way that LNG can be made to release its energy instantaneously.

An LNG tanker holds about the same energy as an oil tanker with the same cargo capacity. To release its energy LNG must be vaporized, mixed with air, and burned; all of these steps occur at slow, predictable rates. For instance, in studies of hypothetical LNG vapor clouds, much of the gas is not sufficiently mixed with air to even burn. An instantaneous release of all the energy is not even theoretically possible.

References: See Testimony of Mr. David Burgess, U.S. Bureau of Mines, before the FPC in Docket #CP73-132 et al, Volume 62.

Raj, Phani P. K., and H. W. Emmons, "On the **Burning of a Large Flammable Vapor Cloud**," paper delivered at joint technical meeting of Western and Central States sections of Combustion Institute, April 21-22, 1975.

B. Potential for Explosions/Detonations

Issue: Dr. Edward Teller, in his report to the Energy Panel of the Commission on Critical Choices, claims that LNG safety is questionable because an "explosion" cannot be ruled out by simple arguments in a general and convincing manner.

Perspective: First, it should be made clear that the word "explosion" can have several meanings. In one case a fuel-air mixture may burn in a confined space and generate sufficient pressure to blow the confining object apart. This is the popular connotation of explosion. There is also a type of explosion of much greater severity called a "detonation" in which the chemical reaction occurs at a much higher rate. This produces a shock wave travelling at sonic speeds or faster which can produce significantly greater damage than the explosions of the first type.

All fuel-air mixtures, including natural gas (methane), can produce explosions of the first type. While it is well-known that gases such as hydrogen, acetylene, propane and butane will detonate in the open air, repeated attempts to obtain self-propagating detonations of unconfined mixtures of methane (the principal constituent of LNG) and air have been unsuccessful, even when large amounts of high explosives have been used to trigger the reaction. In addition, there are sound theoretical reasons as to why methane is unique in this regard.

Laboratory tests with mixtures of air and methane, have shown that detonation cannot occur except under artificial conditions of high pressure or an enriched oxygen atmosphere. In larger scale tests carried out by the U. S. Air Force and by the U. S. Navy, shock waves from high explosives died out in mixtures of methane and air at all proportions. In

field tests where LNG was spilled and the vapor cloud ignited, it burned at a moderate rate. There was no noise; it was more like a large grass fire than an explosion.

References: Nolan, M. E., "A Simple Model for Detonation Limits of Gas Mixtures," Combustion Science and Technology I, 57, (1973)

Vanta, E. B., J. C. Foster, and G. H. Parsons, "Detonability of Some Natural Gas-Air Mixtures," Eglin Air Force Base, AFATL-TR-74-80 (1973)

C. Shipping Accidents

Issue: Critics suggest that a collision of a large LNG tanker with another large ship could theoretically produce a massive spill of LNG on water.

Perspective: Shipping risks have been reduced to a minimum by a combination of operating constraints and design features.

The U. S. Coast Guard regulates safety in U. S. coastal waters. It has the authority to regulate the design of all ships affecting harbor safety and has developed the expertise in the LNG area to carry out this function. It has been cognizant of the problems associated with LNG for over twenty years and has been regulating the design of LNG tankers for over fifteen years. LNG tankers have a unique double-hull construction over five feet thick, including the space between hulls, that gives them much more resistance to penetration than an ordinary oil tanker having a single-hull with only a one-half to one inch barrier. There are typically five or six cargo compartments to limit the size of a spill should an accident occur and many other safety features. In addition, the Coast Guard inspects LNG tankers prior to entry into U. S. ports to ensure compliance with its regulations.

Under current operating conditions in the major U. S. ports, the probability of a collision per trip is extremely low. Statistics based on the historical record of large ship accidents show that for fifty-three trips per year into New York Harbor, the probability against a collision is less than one in 100,000 per year without special Coast Guard regulations. The probability against a broadside collision at a speed sufficient to penetrate

to one of the LNG tanks inside double-hull protection is many times lower still.

For the passage of LNG tankers in U. S. coastal waters, the Coast Guard has issued a comprehensive set of additional regulations. The Coast Guard creates a traffic-free envelope around an LNG tanker in a harbor by stopping all meeting and crossing traffic within a zone two miles in front and one mile behind the tanker. This makes the chance of a collision resulting in a spill of LNG essentially zero.

References: See Testimony of U. S. Coast Guard, before the FPC in Docket #CP73-132, Volumes 42-44; statement of Rear Admiral Benkert, USCG, before the Senate Committee on Commerce, Hearings on Transportation of Hazardous Materials, 14 June 1974.

D. LNG Spills on Water

Issue: Critics hypothesize that a massive spill of LNG on water could lead to formation of a large, flammable vapor cloud and further hypothesize that such a cloud might spread several miles over a populated area before ignition.

Perspective: Methane is lighter than air and ordinarily rises harmlessly into the atmosphere. Only when it is still cold will it remain in a low vapor cloud, as after a massive spill into water with very fast, subsequent evaporation. Even such a cloud soon becomes buoyant as it gathers warmth from the air, water surface, and sunlight. In order to get a large, flammable LNG vapor cloud travelling low over inhabited areas, one must hypothesize a series of sequential events, each of which is unlikely to occur:

1. A shipping accident occurs causing rupture of an LNG tanker which is massive;
2. The accident itself somehow does not ignite the resulting flammable vapors;
3. Weather conditions are just right to minimize dispersion and maximize vapor travel toward populated areas;

4. No ignition occurs as the cloud encounters large numbers of ignition sources when it first reaches land.

Each of the above steps is extremely unlikely; the combination of all of the above is virtually impossible.

The U. S. Coast Guard has issued rules that will eliminate the first event; but even should one occur, they feel that an accident leading to a massive spill would also cause ignition of the LNG vapors released before they spread.

Even critics of LNG acknowledge that ignition over populated areas is likely from sources such as autos or homes; hence, it would be impossible for a cloud to travel long distances without ignition. Some critics have speculated that a cloud might travel sixty miles before dispersing into the atmosphere. The distance a cloud travels in the real world is determined by whether or not it encounters an ignition source. In a shipping accident, the accident itself is often an ignition source. On land, cigarettes, automobiles, industrial processes, pilot lights in stoves and heaters, switches, etc., are examples of the numerous ignition sources present.

Given the Coast Guard procedures that essentially eliminate the chance of a collision and the virtual certainty of ignition before a vapor cloud could overlay a populated area, calculations of distance travelled by hypothetical vapor clouds represent speculation that totally distorts the real risks.

References: See Testimony by the U. S. Coast Guard, before the FPC in Docket #CP73-132, Volumes 42-44.

Germesles, A. E. and E. M. Drake, "Gravity Spreading and Atmospheric Dispersion of LNG Vapor Clouds," paper to be given at 4th International Symposium on Transport of Hazardous Cargos by Sea and Inland Waterways.

E. Storage Accidents

Issue: Critics also argue that large LNG terminals should not be located in or near major population centers because of the risks of accidents involving LNG storage facilities.

Perspective: Storage of LNG in large tanks is an advanced technology which has been validated by the National Bureau of Standards. Modern storage tanks are made of materials specially developed for cryogenic service. The tanks are properly spaced and are surrounded by dikes which would limit the spread of LNG in the unlikely event of a spill. High vapor fences together with the dikes prevent the spread of the cold vapor. Automatic vapor and flame detectors and alarms give further protection.

There are over seventy-five modern LNG facilities in operation. Not one has caused harm to the general public. The only recent accident in an LNG facility occurred in a tank undergoing repair that had been empty of LNG for over nine months. In that accident the wall insulation caught fire and burned, aided perhaps by residual gas vapors.

References: "Cryogenic Safety Review," a report by the Cryogenic Division of the National Bureau of Standards to the FPC (1973).

F. Natural Phenomena

Issue: Could natural phenomena such as hurricanes and earthquakes threaten the integrity of LNG ships or storage tanks?

Perspective: The likelihood of hurricanes or earthquakes hitting a particular location is extremely low. Land-based LNG facilities are designed to withstand earthquakes and hurricane force winds. Furthermore, no large vapor cloud could form in high wind or rain.

LNG tankers, while unloading at the dock, are capable of rapid debarkment to ride out the storm at sea in the event of weather alerts from the Coast Guard or Weather Bureau.

References: "Cryogenic Safety Review," a report by the Cryogenic Division of the National Bureau of Standards to the FPC (1973).

Testimony of T. Kavanagh before the FPC in Docket #CP73-132 et al, Volume 7.

Testimony of U. S. Coast Guard before FPC in Docket #CP73-132 et al, Volumes 42-44.

REGULATORY PROCEDURES

Several federal agencies are involved in the regulation of LNG. The Federal Power Commission (FPC) has jurisdiction over the importation and interstate sale of LNG and on this basis has **examined safety** issues. The FPC has consulted with other agencies, for example the National Bureau of Standards, to review the safety of LNG marine terminals. The Department of Transportation, acting through the U. S. Coast Guard and the Office of Pipeline Safety, has expertise in ship design and operation and has authority over LNG ships and cargoes in harbors. The Coast Guard is confident that safety will be maintained. The Office of Pipeline Safety has adopted standards for LNG facilities. The U. S. Maritime Administration has awarded subsidies under programs for the construction of LNG ships. Clearly there is no regulatory gap in LNG safety.

CONCLUSION

There has been enormous and widespread effort devoted to making LNG operations absolutely safe. LNG operations are a proven technology which has been fully reviewed and is comprehensively regulated. The time has come to put this technology to work to help relieve the critical shortage of natural gas.

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THE WHITE HOUSE
WASHINGTON

F.Y.I.

Meeting on Monday, Sept. 22
2:00 p.m.

Mr. Cannon's Office

Participants:

John Byrnes
Louis Cabot
Robert Meghreblian
Mike Duval
Steve McConahey
Mr. Cannon

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TELEPHONE (414)

September 12, 1975

ident

Wednesday, Cabot Corporation
area of importing liquefied
subsidiary, Distrigas, was the
first U.S. importer on a commercial scale, starting opera-
tions in Boston in 1971. We feel very strongly that in-
creased imports of LNG can represent a very meaningful
method of providing some relief from the recognized energy
shortage. Cabot's LNG operations are geared primarily to
New England and it doesn't take much foresight to recog-
nize that this an area of the country that will be parti-
cularly hard hit as a result of the shortage of gas in all
forms.

It is our understanding that the development of a
national policy with respect to the importation of LNG is
"in the works" and may come to a head at any time.

Mr. Louis Cabot, Chairman of the Board of Cabot
Corporation, and Dr. Robert Meghreblian, Vice President and
Director of Research and Development at Cabot Corporation,
would like the opportunity to visit with the Vice President
and/or James Cannon, Executive Director of the Domestic
Council. They particularly want to address themselves to
the questions raised with respect to safety factors involve
in handling LNG. They feel that such a meeting is vital in
view of some of the opinions on the subject attributed to
the Vice President. For example, the New York Times Magazi



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2pm Monday

September 12, 1975

Mr. John G. Veneman
Counsellor to the Vice President
Room 268
Executive Office Building
Washington, D. C. 20500

Dear John:

As I told you on Wednesday, Cabot Corporation has been a pioneer in the area of importing liquefied natural gas (LNG). Their subsidiary, Distrigas, was the first U.S. importer on a commercial scale, starting operations in Boston in 1971. We feel very strongly that increased imports of LNG can represent a very meaningful method of providing some relief from the recognized energy shortage. Cabot's LNG operations are geared primarily to New England and it doesn't take much foresight to recognize that this an area of the country that will be particularly hard hit as a result of the shortage of gas in all forms.

It is our understanding that the development of a national policy with respect to the importation of LNG is "in the works" and may come to a head at any time.

2 Mr. Louis Cabot, Chairman of the Board of Cabot Corporation, and Dr. Robert Meghreblian, Vice President and Director of Research and Development at Cabot Corporation, 3 would like the opportunity to visit with the Vice President and/or James Cannon, Executive Director of the Domestic Council. They particularly want to address themselves to the questions raised with respect to safety factors involved in handling LNG. They feel that such a meeting is vital in view of some of the opinions on the subject attributed to the Vice President. For example, the New York Times Magazine for April 20th carries an account of a discussion at the



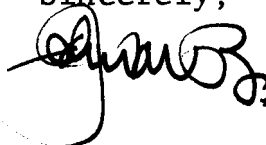
White House in which the Vice President is alleged to have expressed grave concern about the dangers of LNG. An aftermath of that article is a release by New York State Senator John Marchi. A copy of the article and the release are attached. The Vice President also apparently expressed grave misgivings about the importation of LNG and the safety aspects of such importation at a meeting with certain representatives of the gas industry held on April 1st. Enclosed is a copy of a report of that meeting. You will note that it assumes that the Vice President's concern is based very heavily on a report of Dr. Edward Teller to the Energy Panel of the Commission on Critical Choices in America.

From the enclosures, I believe you can understand, John, why they feel an effort must be made to present the information they have with respect to the safety factors involved in handling and transporting LNG. I can assure you that they can speak very authoritatively with respect to all aspects of LNG and they certainly are well versed in the safety factors.

It is not my intention to use this letter to discuss or argue about Dr. Teller's views and those expressed by the Vice President. To assure you, however, that there are studied judgments that LNG can be handled and transported in a safe manner, I am enclosing a copy of a letter which I think you will find very informative on the subject. The President of the Borough of Richmond, City of New York, had written the United States Coast Guard concerning the safety of an LNG installation on Staten Island and the associated waterborne delivery of LNG. The enclosed letter is a copy of the Commandant's reply to the Borough President. You will note the Commandant's conclusion that "on the basis of studies carried on since 1968, the Coast Guard believes that our present knowledge of its hazards and the present controls exercised over its movement and handling are sufficient to assure safe importation by water".

I do hope that you will be able to advise me at an early date as to the time when Mr. Cabot and Dr. Meghreblian can meet with the Vice President and/or Mr. Cannon.

Sincerely,



Enclosures

NEWS FROM:

Senator John J. Marchi
24th District
Chairman, Finance Committee

For Further Information Contact

Gerry McLaughlin (518) 472-6707
Release Date
Immediate, Tuesday, April 22, 1975

Senator John J. Marchi (R-C), Staten Island-Manhattan, said today that he had introduced two bills to prohibit any vessel from carrying liquified natural gas or synthetic natural gas within the Port of New York.

"For many months now," the Senator said "the people of Staten Island have been concerned about the safety of the proposed liquified natural gas storage facilities under construction in the Rossville section of Staten Island. I have previously introduced legislation that would permit the City of New York to take effective action to protect the residents of the City. However, the City Administration has made no move to support these bills."

"We can no longer wait for the City authorities to act. We are warned by Vice-President Rockefeller, who surely is in a position to know, that we are courting disaster.

In last Sunday's New York Times Magazine article detailing President Ford's week, author John Hershey, describing a cabinet meeting, writes of Mr. Rockefeller 'warning that supertankers carrying liquified gas are extremely dangerous. If one blew up in an American port, he says, the whole city would go up. He paints a vivid picture of urban devastation.' "

"We are all aware," the Senator continued "of the dimensions of our energy crisis. But in the light of the Vice-President's warning it would be tantamount to criminal negligence by all public officials if we do not take immediate action to prevent this dangerous cargo from entering the Port of New York. This action has bi-partisan support; Assemblyman Louis DeSalvio has introduced a companion bill in the Assembly and has indicated that he will press for its passage."

"The energy crisis must be solved," the Senator said, "but we cannot accept a solution that gambles with the lives of tens of thousands of New Yorkers."

Dr. Burns of the Fed; Rumsfeld, Hartmann, Scowcroft and some staff assistants.

The President asks Secretary Simon for a report on the status of the tax-rebate bill.

SIMON: Mr. President, we're attempting to keep

to get the stimulus as soon as we can. . . .

The meeting lasts for an hour and 15 minutes and goes into great detail on issues that are quite technical: an intention to impose countervailing duties on European Community dairy products;

excess-profits tax on the oil companies that an allowance for plowback?

SIMON: It is, sir. We've proposed a windfall-profits tax in preference to that.

FORD: I'm not sure I understand the difference between a windfall and an excess-profits tax.

SIMON: Sir, the windfall tax aims like a rifle at crude oil, as opposed to an excess-profits tax which would cut across the whole range of an extremely complex system of profit calculation.

GREENSPAN: Trying to audit through the profits system of the multinationals would lead you into a hopeless maze.

The Vice President subsides like a balloon with the air escaping.

FORD: The main thing is to attach as few amendments as possible to the tax bill, so as

to get the stimulus as soon as we can. . . .
ment Appropriations Act

Mr. Rockefeller with belling tones interrupts the Ex-Im discussion with a warning that supertankers carrying liquefied gas are extremely dangerous. If one blew up in an American port, he says, the whole city would go up. He paints a vivid picture of urban devastation.

The President's interventions are minor, until the discussion of the Democrats' big bill to provide jobs. Here his only interest is in keeping spending down. He proposes the preparation, as quickly as possible, of "an updated scoreboard" on the budget, reflecting Congressional proposals to spend more and more, and Congressional refusals to rescind or defer spending already authorized. He stresses more than once the need to dramatize "their" additions to the deficit.

N.Y. Times Magazine 4/20/75



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Mailing Address:
U.S. Coast Guard (G-MMT/82)
400 Seventh St., S.W.
Washington, D.C. 20590
Phone: (202) 426-2167

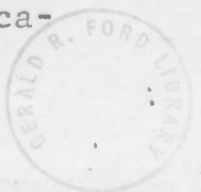
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24 OCT 1973

Mr. Robert T. Connor
President, Borough of Richmond
City of New York
Borough Hall
Staten Island, New York 10301

Dear Mr. Connor:

I would like to thank you for your letter of 10 September 1973 expressing, on behalf of your Borough, concern over the safety of the proposed liquified natural gas (LNG) installation being constructed on Staten Island and the associated waterborne delivery of LNG. The Coast Guard concurs that the stowage and transportation of LNG does present unusual hazards. However, on the basis of studies carried out since 1968, the Coast Guard believes that our present knowledge of its hazards and the present controls exercised over its movement and handling are sufficient to assure safe importation by water.

It might be of interest to you to learn the depth that the Coast Guard has investigated and considered the measures necessary to import not only liquified natural gas but a whole range of other hazardous substances into our country. Early in the 1960's it was recognized that there was a marked increase in the handling of hazardous substances to our ports. These substances included both chemicals and liquified gases in bulk. At that time the traffic flow was mainly out of the country into Europe and mainly by foreign flag vessels. The Coast Guard recognized that the hazards presented by these ships were of an unusual nature when compared to the conventional cargo and tank vessel and they were not covered by international treaty. As a result, a study was undertaken of the measures necessary to insure these commodities would be safely handled and transported in our port areas. This work evolved in 1965 into what has become known as the Letter of Compliance program. This program requires that any foreign vessel transporting designated hazardous substances into or out of ports in the United States must obtain a letter from the Coast Guard authorizing them to do so. Prior to the issuance of this Letter of Compliance, the Coast Guard reviews the plans and specifica-



tions of the vessel and, where necessary, specifies materials and testing to insure that those portions of these foreign vessels relating to cargo containment and cargo safely meet applicable U. S. standards. This program has been vigorously enforced and widely recognized throughout the world in the design and construction of both chemical and gas carriers. Recently this program was revised and updated with the issuance of a special set of interim regulations for issuance of Letters of Compliance. These regulations were published in the Federal Register on Friday, June 15, 1973, Volume 33, No. 115, Part 3 (copy enclosed).

Basic regulatory requirements addressing liquified flammable gas carriers may be found in 46 CFR Part 38 and the enclosed Guide for Review of Liquified Flammable Gas Vessels. These regulations cover certification of U. S. vessels carrying liquified flammable gases and are also the basis for review of foreign flag vessels prior to issue of a Letter of Compliance. In order to assure that these regulations adequately address the rapidly developing technology in the transport of liquified flammable gases (primarily liquified natural gas), the Coast Guard requested the Chemical Transportation Industry Advisory Committee to establish a task force to make recommendations for a thorough updating of 46 CFR Part 38 in light of current technology. This group, acting as an advisory committee to the Coast Guard, represents a cross section of experienced U. S. designers, builders, and operators of vessels and barges carrying liquified flammable gases, with particular emphasis on liquified natural gas technology.

As you likely know, the local Coast Guard Captain of the Port is uniquely empowered to establish operational constraints upon shipping within his zone. Such constraints, in the case of an LNG tanker, might consist of, but not be limited to: Requiring an escort vessel as well as tugs when approaching and maneuvering within a harbor area, allowing transit only during hours of daylight and good visibility, establishing a security zone (through which no other traffic may pass) around the vessel while underway and when moored, defining communications capabilities and position reporting requirements, inspecting all safety systems and devices (by Coast Guard personnel) before authorizing port entry, holding pre-arrival conferences between vessel representative, facility representative, Captain of the Port representative and local fire



and police officials to insure a clear understanding of safety requirements and procedures. As can be seen from these examples, the operational requirements of the Captain of the Port will do much to insure safe LNG vessel passage, and cargo handling while in a port area.

In addition to this domestic effort, the Coast Guard is actively involved in the development of international standards for the construction and operation of gas carriers. The Coast Guard, which represents the United States at the Intergovernmental Maritime Consultative Organization (IMCO), a UN agency concerned with maritime safety which meets in London, has been a leader in the initiation and development of a code for gas carriers that could be accepted by all nations and provide a uniform safety standard throughout the world. With U. S. chairmanship of the ad hoc group charged with developing the gas carrier code, and ample support from Government and industry experts in this field, the U. S. has been able to incorporate many of its current domestic regulations into the proposed international standard. This will insure that when the IMCO gas carrier code is adopted internationally there will be no lowering of the safety standards for vessels calling in U. S. ports.

In addition to these regulatory activities, the Coast Guard has obtained a basic understanding of LNG spill behavior and hazards through contract studies by the Bureau of Mines and with the assistance of our Committee on Hazardous Materials under the National Academy of Sciences. Results are summarized in a 1972 report by the Bureau of Mines (enclosure (2)) and in the proceedings of a 1972 international conference on LNG hazards held for the Coast Guard by the Committee on Hazardous Materials (enclosure (3)).

As can be seen from this abbreviated review of Coast Guard activities in the field of safe transport of hazardous substances, including LNG, we are vitally interested in seeing that these products can be safely transported and offloaded.

It is based on this work and the careful assessment of all aspects of the carriage of LNG that the Coast Guard feels that liquified natural gas can safely be imported into this country.

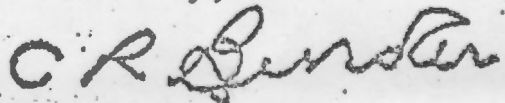


With respect to the projects which propose to import natural gas into a terminal located on Staten Island, the Federal Power Commission has published a draft environmental impact statement on this project asking for public comment thereon. The Coast Guard assisted the Federal Power Commission in drafting this environmental impact statement, commenting specifically on our regulatory responsibility and action with respect to the ships involved and the terminal facilities that will be used. For your reference the Federal Power Commission's draft environmental impact statement references their documents DOCKET C.P. 73-47, -78, -88, -132, -148, -203, and -230. This impact statement indicates that liquified natural gas can be imported to the Staten Island terminal without exposing the lives and property involved to undue hazards providing the preventive measures described therein are effected. This document describes the regulatory action Coast Guard has taken and the operational procedures it intends to propose to insure that this project does not create any unusual hazards.

In summary, Mr. Connor, the Coast Guard feels that with the requirements it has made in respect to the construction of the ships involved, together with those local constraints which the Captain of the Port, New York, will impose in the way of operational procedures to be followed, liquified natural gas can be imported to the proposed Staten Island terminal with a proper level of safety and that this level can be maintained throughout the life of the project.

If the Coast Guard can be of further assistance to you, please feel free to contact me at any time.

Sincerely,



C. R. BENDER
ADMIRAL, U. S. COAST GUARD
COMMANDANT

- Encls: (1) Federal Register dtd June 15, 1973
(2) Hazards of Spillage of LNG into Water
(3) Conference Proceedings on LNG Importation and Terminal Safety
(4) Tentative Guide for the Review of Liquified Flammable Gas Carriers

