THE WHITE HOUSE

WASHINGTON

February 16, 1976

ADMINISTRATIVELY CONFIDENTIAL

MEMORANDUM FOR: FRANK G. ZARB

FROM: JAMES E. CONNOR

SUBJECT: Liquefied Natural Gas (LNG) Issue Paper

The President has reviewed your memorandum of February 13th on the above subject and has approved Option 2 -- Limit LNG imports to about 1 tcf by 1985 (to be reassessed if deregulation is not attained); subject all pending plus any new projects to a careful case-by-case national security and economic review -- with the following conditions:

That the one trillion cubic feet figure be portrayed as a rough target, or desirable limit which could be exceeded if individual projects raising imports above that figure passed the economic/national security case-by-case analysis test. It would be undesirable to tie our hands to too great a degree. We may find ourselves short of domestic natural gas and need foreign supplies above the one trillion level.

That it be made clear that this decision is based on the expectation of deregulation of domestic natural gas, and that a reassessment would be required if this assumption does not prove to be correct.

That diversification of sources which improves security be a primary objective of LNG import policy, and that the success of such a policy would be an important factor in decisions to increase the target level of imports. (This would give industry an incentive to diversify if it wishes a more favorable import target.)

THE WHITE HOUSE

WASHINGTON

February 14, 1976

MR. PRESIDENT:

Re: Frank Zarb's Memo of 2/13/76 on
Liquefied Natural Gas (LNG) Issue Paper

Staffing of the attached has resulted in the following comments from Messrs. Scowcroft, Cannon, Marsh and Friedersdorf:

Scowcroft --	Recommend Option 2 with conditions (see Tab A)
Cannon --	Recommend Option 2 and concurs with Scowcroft's comments
Marsh --	Option 3
Friedersdorf --	Option 2

Jim Connor

FEDERAL ENERGY ADMINISTRATION
WASHINGTON, D.C. 20461
FEB 13 1976

OFFICE OF THE ADMINISTRATOR

MEMORANDUM FOR THE PRESIDENT

FROM: FRANK G. ZARB

SUBJECT: LIQUEFIED NATURAL GAS (LNG) ISSUE PAPER

Enclosed is an issue paper on Liquefied Natural Gas (LNG) for your review and possible inclusion in the Energy Message; agency positions are recorded.

Enclosure

ISSUE: LNG IMPORTS

What should be the U. S. Government policy with respect to the importing of liquefied natural gas (LNG)?

BACKGROUND

LNG is natural gas of pipeline quality (1000 Btu/cubic foot), liquefied by lowering gas temperature to -260°F. Liquefaction reduces volume by factor of 600, enabling transportation by cryogenic tanker from foreign sources.

The absence of a comprehensive U. S. Government policy towards LNG imports has had several important effects, most significantly:

- It has compounded the uncertainty which faces the private sector, suppliers and consumers, and State regulatory groups as they attempt to cope with pervasive and growing natural gas shortages.

- It has enabled an OAPEC member country, Algeria, to emerge as the major prospective foreign supplier of LNG to the U. S., and as the potentially-dominant world supplier of LNG, because:

  - Algeria can capitalize on favorable geography: proximity to Western Europe; relative closeness to U. S. (4,000 miles from U. S. East Coast, v. Indonesia which is 8,000 miles from U. S. West Coast).

  - Algeria has a strong incentive to develop LNG exports because of large gas reserves (229 trillion cubic feet), and major economic development needs (annual population growth of 3.5%, one of the world's highest rates).

It is appropriate now to review our policies towards LNG imports because of several recent developments.

- Deregulation is the major natural gas supply issue. Legislation to deregulate new gas prices now seems more remote, but even with positive action, there may be a need for some level of LNG imports because of technical, geological and institutional supply uncertainties.

- Furthermore, if deregulation is not enacted, the prospects of high demand for gas at regulated prices, and low supply, remain very real, with the consequences of rising curtailments.

- The Interagency Natural Gas Task Force concentrated its efforts on this winter season, and the Synthetic Fuels Task Force directed its attention to the long-term outlook; they have submitted their policy recommendations; LNG imports, which can help during the mid-term, should also be addressed.

- Algerian posture in OPEC, OAPEC, and in world organizations such as the U.N., continues to be confrontational towards the U. S. The development of a major commercial exchange with that country, and the subsequent U. S. vulnerability to price and supply disruptions, should be assessed carefully.

- Two projects involving LNG imports from the U.S.S.R. have been proposed, but not submitted to the Federal Power Commission:

  - East Yakutsk, with the U. S. and Japan each receiving one billion cubic feet per day (bcf/d) by the early 1980's;

  - Northwest Siberia ("North Star"), with 2 bcf/d to the U. S. East Coast by the mid-1980's.

  These projects may require Export-Import Bank financing and therefore Congressional approval, although there are indications that the "North Star" project is proceeding without direct U. S. government financing. More importantly, the decision to proceed with these ventures would have to be taken in the broadest context of U.S.-U.S.S.R. relations. Because of timing and political uncertainties, potential LNG imports from the U.S.S.R. are not considered in the technical analysis in this paper, which discusses 1985 import availability.

SUMMARY OF FINDINGS

Government Role

- Current U. S. Government role in LNG imports is spread among Federal Power Commission (FPC), Maritime Administration (MarAd), Export-Import Bank (Exim), and other agencies.

- Under Natural Gas Act, FPC has direct authority over all natural gas imports and the price of sale.

- President has authority under Section 232 of Trade Expansion Act of 1962 to adjust imports of natural gas if such imports threaten to impair the national security.

- Through construction subsidies and ship mortgages, MarAd equalizes LNG tanker construction costs in the U. S. with world cost levels; total MarAd exposure to date is $900 million for ten tankers dedicated to LNG imports to the U. S.

- Exim provides loans and guarantees for export of U. S. goods to overseas LNG facilities; total exposure to date is $205 million for the El Paso #1 project in Algeria.

<u>Summary of Analysis</u>

- Since maritime costs of LNG are considerable, the shorter the transportation link to the consuming country the higher the "take" of the exporting country.

  - Algeria, at an East Coast landed price of $2.30/Mcf, priced its gas feedstock at .78/Mcf (4,000 mile route);

  - Indonesia, at a West Coast landed price of $2.80/Mcf, priced its gas feedstock at .62/Mcf (8,000 mile route).

- Algeria is emerging as the major world exporter of LNG, with an estimated 60 percent of world LNG trade, which by 1980 may total 4.6 trillion cubic feet per year (tcf/yr).

- U. S. imports from Algeria present unique problems because:

  - Algeria's potential U. S. market could easily be larger than that of suppliers such as Nigeria and Indonesia, and concentrated in areas of high vulnerability such as large Eastern urban areas;

  - Algeria's production comes from gas-only fields; since it is independent of oil production activity, it is relatively easier to curtail or embargo;

  - Algeria has better access than other producers to alternative markets in Western Europe.

- LNG imports after regasification and delivery to the city gate, range in cost from $2.65 to $3.10/Mcf; these costs are likely to escalate.

- With prompt deregulation of new gas prices, natural gas shortages could essentially be eliminated by 1985, if development of other fuels proceeds on course.

- Under assumptions of continued price regulation, a natural gas supply gap (unmet demand) emerges and could range from 4.3-6.8 tcf in 1985 depending upon success of other supply and conservation actions.

- Estimates of LNG import supply potential in 1985 range between 0.4 tcf and 2.1 tcf; as the level of LNG imports increases within this range, foreign supply dependency shifts from 100% Algerian (at .4 tcf) to slightly over 60% Algerian (at 2.1 tcf) with the addition of Indonesia, Iran and Nigeria as import sources.

Thus, LNG imports will not be a major energy supply source in the mid-term; the most reasonable <u>high case</u> estimate for 1985 is 2.1 tcf, or roughly 1.1 million barrels per day oil equivalent. Nevertheless, the regional impact of LNG imports is potentially significant. If all projects pending before FPC are approved, 1985 imports would total 1.5 tcf, of which 1.06 tcf would be delivered to U. S. East Coast.

While there is some uncertainty in these LNG projections, there is considerably more uncertainty in the projections of other supplemental gas supply options:

- Canadian gas imports are subject to further price increases and volume reductions, paralleling Canadian action on oil prices and exports.

- The timing, costs and volume of Alaskan gas delivered to the lower-48 are presently highly uncertain.

- The magnitude of high-Btu synthetic gas supply will depend upon the level of Federal Government support. Non-subsidized prices are likely to be above $3/Mcf, or $19/barrel equivalent (1975 dollars; FOB plant); the Synthetic Fuels Commercialization Task Force estimates that by 1985 high Btu synthetic gas supply would total approximately .6 tcf ($13 world oil price), and could remain at about that level through 1990.

- Synthetic gas from petroleum (SNG) has apparent attractiveness due to its proven technology and relatively low capital costs ($115 million for 250 MMcf/d facility); however, price and availability of petroleum feedstocks are problematical. Prices for this source are likely to be about $3.10/Mcf (1975 dollars; FOB plant).

- Production from tight gas formations is technically unproven, and may face environmental challenge.

POLICY OPTIONS

There is now uncertainty over the outcome of various legislative proposals, and their impact upon domestic supply. It is therefore prudent to consider the possibility of unmet demand within the mid-1980's, and the possible role of LNG imports as a supplemental source of supply. Moreover, the large number of pending LNG import applications at the FPC, and the potential dominant role of Algeria in supplying foreign LNG to the U. S. require a national policy on LNG imports. The balance among national goals of energy independence and national security, and domestic economic, environmental and regional concerns must be carefully struck.

In broad terms, from the national security standpoint, a project ought to be demonstrably essential for specific energy needs, and capable of meeting specific national security and economic criteria still to be established.

In establishing these national security and economic criteria, the following considerations apply:

- LNG as an import source suffers from vulnerability similar to the oil imports, since it comes from sources which are insecure and have participated in price actions and supply interruptions in the past.

- LNG imports are probably less secure, inherently, than oil imports because the logistical technology is much more complex; moreover, there is no spot market to provide relief from supply disruptions.

- The LNG logistical infrastructure requires large investments in specialized facilities, equipment and ships, and special economic incentives to finance these investments; to date, the burden of these investments, and the financial risk, have been mostly upon the consuming countries.

- LNG imports are not one-for-one substitutes with oil imports; in most uses, the gas can be substituted by electricity, fueled by coal or nuclear power. Thus, a restriction on LNG imports would not necessarily result in parallel increase in oil imports.

- The economic review to qualify LNG import projects may have to find that these projects represent the best supply alternative, when incrementally-priced and without additional U. S. government subsidy.

In defining a policy towards LNG imports, two issues have been considered by the ERC:

- Goals of an LNG import policy, expressed as acceptable levels of import dependency during the 1980's;
- Mechanisms to achieve the import levels defined as goals.

ISSUE: IMPORT GOALS

Option 1

Restrict LNG import goal to projects unconditionally-approved by the FPC as of this date; approval of pending projects or new ventures would be conditioned by stringent national security and economic criteria.

PROS:

- Most direct way of limiting Algerian market share, since four of five pending projects are Algerian based.
- Limits total vulnerability (0.4 tcf/yr. unconditionally-approved).

CONS:

- Several other pending projects are in advanced planning; appearance of rollback would be created.
- Possibly foregoes additional supply of .6 - 1.6 tcf/yr. in 1985, which is likely to be needed.

Option 2

Limit LNG imports to about 1 tcf by 1985 (to be reassessed if deregulation is not attained); subject all pending plus any new projects to a careful case-by-case national security and economic review.

The 1 tcf limit by 1985 will not be an absolute ceiling, but rather a signal to the public and industry of a reasonable level of import dependency. Conceivably the actual level approved could exceed or fall short of 1 tcf by 1985. If the national security review warrants limitation of Algerian imports, quick indications to that effect would be given.

In any event a case-by-case review will be conducted of all projects not yet unconditionally approved. The review will consider regional dependency within the United States and an assessment of the security of the source of imports, as well as other factors.

PROS:

- Signals industry that the government believes import levels of about 1 tcf are realistic, subject to stated conditions, without, at this time, placing an absolute limit on LNG imports.
- Firm upper limit could be established on Algerian market share.
- Will not discourage industry from developing foreign sources of LNG supply other then Algeria.

CONS:

- Unless new prospective supply countries initiate U.S. import ventures, Algerian LNG import market shares could be very high.
- Industry is probably expecting a more favorable goal from the Administration.

Option 3

Recognize a role for LNG imports as a valuable alternative source of natural gas supply; place no upper limit on import levels, but review projects on case-by-case basis to meet national security and economic concerns.

PROS:

- Permits market forces to determine the need for LNG without active encouragement or discouragement by the Federal Government.
- May provide stimulus to domestic shipbuilding and to U.S. exports of venture-related material and equipment.

CONS:

- Algerian market share, and concomitant U. S. vulnerability, would probably be highest under this option, since Algeria is most advanced LNG supplier;

- LNG projects are financed on long-term (20 year) pay-out assumptions; new projects put in place during the mid-1980's would commit the U. S. to LNG through the end of the century;

- Leaves considerable uncertainty within industry on acceptable level of LNG imports.

- At the time when this country has set an explicit import goal for oil, this option leaves acceptable natural gas import levels undefined.

Option 4

Take no action with respect to LNG import policy at this time.

PROS:

- Enables deregulation issue to be settled without being affected by an announcement on LNG policy.

- Allows further time for definition of national security impacts.

CONS:

- Prolongs uncertainty facing industry and government regulatory agencies and executive departments.

- Regardless of the outcome of deregulation issue, there is a need within government and industry for a clear statement of U. S. policy towards LNG imports.

Regardless of which option is chosen and to expedite the implementation of the import goal, we must move quickly to approve the projects that qualify under national security and economic criteria. Thus, the issue has been narrowed to options for import goals. Most agencies agreed, and the ERC recommends, that a Task Force be established under its direction to implement the import policy goals. The Task Force will consider in detail questions relating to Federal financial assistance, pricing policies, and criteria to deal with national security issues such as security of individual supply sources, and acceptable levels of regional vulnerability.

The ERC considered the use of Section 232 authority under the Trade Expansion Act to seek national security findings, as an implementing mechanism. It was generally agreed, however, that a case-by-case approach, with Administration comments to the FPC, would be adequate.

AGENCY RECOMMENDATIONS

- Option 1 - CEA, OMB
- Option 2 - FEA, State, ERDA
- Option 3 - Commerce, Interior
- Option 4 - Treasury, Seidman

PRESIDENTIAL DECISION

Option 1 ___

Option 2 ___

Option 3 ___

Option 4 ___

A

MEMORANDUM

THE WHITE HOUSE

WASHINGTON

February 14, 1976

MEMORANDUM FOR: JAMES CONNOR

FROM: BRENT SCOWCROFT

SUBJECT: Zarb's Memo on LNG Imports

I recommend approval of option two with the following conditions:

-- That the one trillion cubic feet figure be portrayed as a rough target, or desirable limit which could be exceeded if individual projects raising imports above that figure passed the economic/national security case-by-case analysis test. I believe it would be undesirable to tie our hands to too great a degree. We may find ourselves short of domestic natural gas and need foreign supplies above the one trillion level.

-- That it be made clear that this decision is based on the expectation of deregulation of domestic natural gas, and that a reassessment would be required if this assumption does not prove to be correct.

-- That diversification of sources which improves security be a primary objective of LNG import policy, and that the success of such a policy would be an important factor in decisions to increase the target level of imports. (This would give industry an incentive to diversify if it wishes a more favorable import target.)

STAFFING

THE WHITE HOUSE

ACTION MEMORANDUM

WASHINGTON

LOG NO.:

Date: February 13, 1976

Time:

FOR ACTION:

cc (for information):

✓Max Friedersdor
✓Jack Marsh
Brent Scowcroft

FROM THE STAFF SECRETARY

DUE: Date: IMMEDIATE TURNAROUND

Time:

SUBJECT:

Frank Zarb's memo 2/13/76 re
Liquefied Natural Gas (LNG)Issue
Paper

ACTION REQUESTED:

___ For Necessary Action

X For Your Recommendations

___ Prepare Agenda and Brief

___ Draft Reply

X For Your Comments

___ Draft Remarks

REMARKS:

Frank Zarb has requested that the
President decide this matter over the week-end
for possible inclusion in the energy message.

Marsh - option 3
Friedersdorf - option 2
Scowcroft - option 2 with conditions
Cannon - option 2 + concurs Scowcroft's comments

PLEASE ATTACH THIS COPY TO MATERIAL SUBMITTED.

If you have any questions or if you anticipate a delay in submitting the required material, please telephone the Staff Secretary immediately.

James E. Connor
For the President

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WASHINGTON

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ISSUE: IMPORT GOALS

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PROS:

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CONS:

- Several other pending projects are in advanced planning; appearance of rollback would be created.
- Possibly foregoes additional supply of .6 - 1.6 tcf/yr. in 1985, which is likely to be needed.

Option 2

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- Firm upper limit could be established on Algerian market share.

- Will not discourage industry from developing foreign sources of LNG supply other then Algeria.

CONS:

- Unless new prospective supply countries initiate U.S. import ventures, Algerian LNG import market shares could be very high.

- Industry is probably expecting a more favorable goal from the Administration.

Option 3

Recognize a role for LNG imports as a valuable alternative source of natural gas supply; place no upper limit on import levels, but review projects on case-by-case basis to meet national security and economic concerns.

PROS:

- Permits market forces to determine the need for LNG without active encouragement or discouragement by the Federal Government.

- May provide stimulus to domestic shipbuilding and to U.S. exports of venture-related material and equipment.

CONS:

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- At the time when this country has set an explicit import goal for oil, this option leaves acceptable natural gas import levels undefined.

Option 4

Take no action with respect to LNG import policy at this time.

PROS:

- Enables deregulation issue to be settled without being affected by an announcement on LNG policy.

- Allows further time for definition of national security impacts.

CONS:

- Prolongs uncertainty facing industry and government regulatory agencies and executive departments.

- Regardless of the outcome of deregulation issue, there is a need within government and industry for a clear statement of U. S. policy towards LNG imports.

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AGENCY RECOMMENDATIONS

- Option 1 - CEA, OMB
- Option 2 - FEA, State, ERDA
- Option 3 - Commerce, Interior
- Option 4 - Treasury, Seidman

PRESIDENTIAL DECISION

Option 1 ___

Option 2 ___

Option 3 ___

Option 4 ___

MEMORANDUM

THE WHITE HOUSE

WASHINGTON

February 14, 1976

MEMORANDUM FOR: JAMES CONNOR

FROM: BRENT SCOWCROFT

SUBJECT: Zarb's Memo on LNG Imports

I recommend approval of option two with the following conditions:

-- That the one trillion cubic feet figure be portrayed as a rough target, or desirable limit which could be exceeded if individual projects raising imports above that figure passed the economic/national security case-by-case analysis test. I believe it would be undesirable to tie our hands to too great a degree. We may find ourselves short of domestic natural gas and need foreign supplies above the one trillion level.

-- That it be made clear that this decision is based on the expectation of deregulation of domestic natural gas, and that a reassessment would be required if this assumption does not prove to be correct.

-- That diversification of sources which improves security be a primary objective of LNG import policy, and that the success of such a policy would be an important factor in decisions to increase the target level of imports. (This would give industry an incentive to diversify if it wishes a more favorable import target.)

THE WHITE HOUSE

WASHINGTON

February 14, 1976

MEMORANDUM FOR: JIM CONNOR

FROM: JIM CANNON

SUBJECT: FRANK ZARB'S MEMORANDUM ON LNG IMPORTS

I recommend option 2 and concur in Brent Scowcroft's comments.

THE WHITE HOUSE

WASHINGTON

ACTION MEMORANDUM

LOG NO.: due: ASAP

Date: February 13, 1976

Time:

FOR ACTION:

Max Friedersdorf
Jack Marsh
Brent Scowcroft

cc (for information):

FROM THE STAFF SECRETARY

DUE: Date: IMMEDIATE TURNAROUND

Time:

SUBJECT:

~~Frank Zarb's memo 2/13/76~~ re
Liquefied Natural Gas (LNG) Issue
Paper

ACTION REQUESTED:

___ For Necessary Action

_X_ For Your Recommendations

___ Prepare Agenda and Brief

___ Draft Reply

_X_ For Your Comments

___ Draft Remarks

REMARKS:

Frank Zarb has requested that the President decide this matter over the week-end for possible inclusion in the energy message.

Option #3

JM

PLEASE ATTACH THIS COPY TO MATERIAL SUBMITTED.

If you have any questions or if you anticipate a delay in submitting the required material, please telephone the Staff Secretary immediately.

James E. Connor
For the President

THE WHITE HOUSE

WASHINGTON

February 13, 1976

MEMORANDUM FOR: JAMES E. CONNOR

FROM: MAX FRIEDERSDORF M. F.

SUBJECT: Frank Zarb's memo 2/13/76 re Liquefied Natural Gas Issue Paper

The Office of Legislative Affairs concurs with Option 2.

FEDERAL ENERGY ADMINISTRATION
WASHINGTON, D.C. 20461

OFFICE OF THE ADMINISTRATOR

February 12, 1976

MEMORANDUM FOR JIM CONNOR

FROM: FRANK G. ZARB Z

The President should decide on this matter for possible inclusion in the energy message over the weekend.

Attachment