

An International Symposium

THE SEA-LEVEL PANAMA CANAL CONTROVERSY

By JOHN C. BRIGGS
*Director of Graduate Studies
University of South Florida
Tampa, Florida*

SINCE DECEMBER of 1970, when the U.S. Atlantic-Pacific Interoceanic Canal Commission recommended to the President of the United States that a sea-level canal be excavated across the Isthmus of Panama, the controversy about this project has become very active. So far, the possible ecological effects of such a canal have stirred up considerably more interest than the economical or political aspects. Until recently, most of the discussions on the ecology had been confined to meetings that took place in, and journals that were published in, the United States.

In 1971, the planning committee for the 17th International Zoological Congress, in selecting topics of worldwide importance for a meeting to be held the following year, decided on the subject of the biological effects of interoceanic canals. Consequently, a symposium, one of seven which were arranged for the Congress, was organized. Dr. O. H. Oren of Israel, an expert on the Suez Canal, was selected as chairman and he in turn invited 19 participants from various countries.

The Congress was held as scheduled in Monte Carlo from September 24-30, 1972. The Interoceanic Canal Symposium was well attended and invoked considerable discussion among the delegates. Since the various papers given at the Symposium have not yet been published, neither the general nor the scientific public has been informed about the information presented. Therefore, it seems worthwhile to give a general account at this time. Dr. Oren chose to utilize a broad approach to the subject and invited participants who were knowledgeable about three critical geographic areas, the Bosphorus, the Suez Canal and Panama.

THE BOSPORUS

Although it is a natural rather than a man made channel, the Bosphorus, which connects the Mediterranean

to the Black Sea, has had some interesting biological effects. A German scientist, Dr. H. Caspers, presented a significant paper on the benthic fauna of the Bosphorus. He showed that this passage provided an access to the Black Sea for the relatively rich fauna of the Mediterranean. In contrast, he found no evidence of faunal pressure from the Black Sea to the Mediterranean. The Bosphorus is an old connection between the two seas (having been open for 10,000-11,000 years) and is responsible for the fact that most of the present day Black Sea fauna is derived from the Mediterranean.

SUEZ

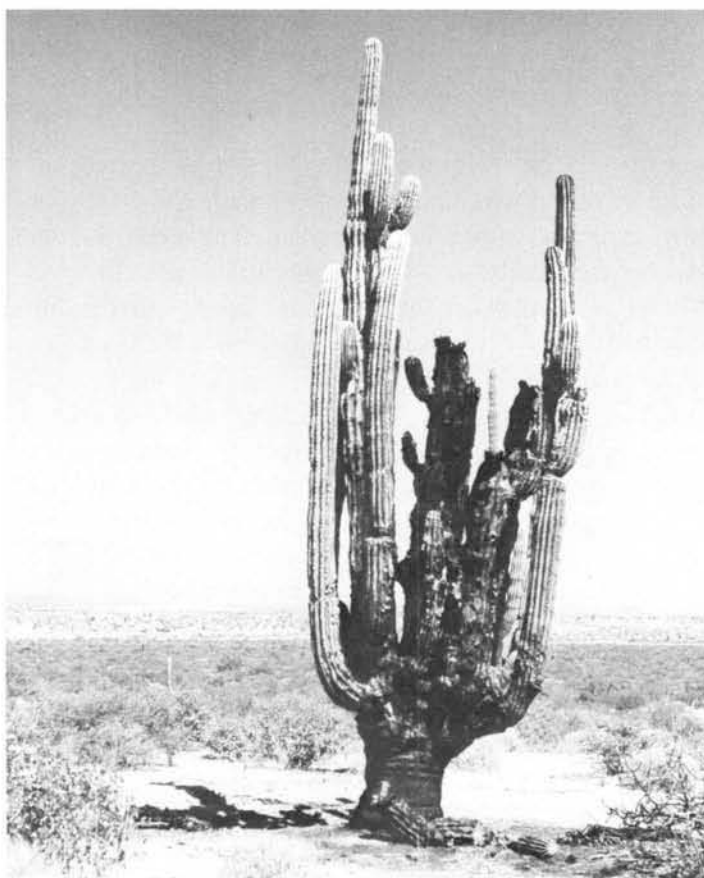
Eleven papers, the largest group in the Symposium, dealt with the biology of the Suez Canal and adjacent areas. These contributions presented up-to-date information about the effects of the only man-made, sea-level canal in the interoceanic category. Although the Suez Canal has been open since 1869, allowing a good period of time for study, its biology was virtually neglected until the past few years. In the Symposium, the general nature of faunal movements in the Canal was discussed as well as those of specific animal groups such as the fishes, fish parasites, polychaete worms, decapod crustaceans (crabs, shrimps, etc.), hydroids, and several planktonic species.

Once a species makes its way through a canal to successfully invade a new territory, it is important to find out how it has been able to make a place for itself. Does it establish a peaceful coexistence with the native species in the same habitat or does it owe its success to its ability to outcompete and displace the native species? Two Israeli biologists, M. Ben-Yami and T. Glaser documented the history of the invasion of the eastern Mediterranean via the Suez Canal by the Red Sea lizardfish (*Saurida undosquamis*). They showed that the expan-

Osprey alighting on its nest atop the cardon.



Osprey just as it takes flight from the nest.



The cardon after burning. A month later the main branches were beginning to fall off.

sion of the lizardfish population was achieved at the expense of its ecological equivalent in the Mediterranean, the Hake (*Merluccius merluccius*). Additional examples of competitive displacement, involving other fish species, were noted.

As far as successful invasion is concerned, the movement of species has been almost entirely from the Red Sea to the Mediterranean. These northward migrations appear to be on the increase due to the changing ecology of the Suez Canal. The high salinity of the Bitter Lakes area has become reduced, the cessation of ship traffic has lowered the turbidity, and the Aswan Dam has cut down on the inflow of fresh water in the vicinity of the northern entrance to the Canal. So far, 140 species of Red Sea animals have established themselves in the eastern Mediterranean but authentic records of Mediterranean species in the Red Sea are very few.

PANAMA

Five of the Symposium papers were devoted to the marine fauna of the Panama area, three of them dealing specifically with the proposed sea-level canal. The latter three may be summarized as follows:

In his report on the Decapod Crustacea, L. G. Abele of the University of Miami pointed out that shrimp from the Bay of Panama form Panama's third largest export item and that the social structure of almost every village along the coast of the Bay is closely tied to shrimp fishing. Since a sea-level canal would permit the invasion of competitive species from the Caribbean, which might possibly result in the loss of the commercial shrimps of the Bay of Panama, Dr. Abele stated that any such canal should be equipped with a tested, effective biological barrier.

A different outlook was expressed by I. Rubino, of the Smithsonian Tropical Research Institute in the Canal Zone. He felt that the joining of two oceans by means of a sea-level passage across the Isthmus of Panama would be a "fantastic natural experiment" and that biologists who advised otherwise were being "harbingers of doom." Nevertheless, he concluded by observing that methods of preventing biological exchange through any new seaway must also be investigated.

G. L. Voss, of the University of Miami, expressed the opinion that the "dire warnings" issued by some biologists about the ecological dangers of a sea-level canal were without foundation. However, he did recognize that at least two dangerous or harmful animals could pass through the proposed canal, the poisonous seasnake *Pelamis platurus* and the crown-of-thorns starfish *Acan-*

thaster planci. Accordingly, Dr. Voss advocated the establishment of a temperature barrier in the canal to be provided by the building of a thermonuclear power generator. By using canal water for cooling purposes, such a plant could raise the temperature of the water to a lethal level.

J. C. Briggs, of the University of South Florida, called attention to the existence of two zoogeographic principles that would govern the exchange of marine organisms should a sea-level canal be built. First, whenever two regions are separated by a barrier that is partially passable, the region with the richest (most diverse) fauna will donate species to the region with the lesser fauna but will accept few or no species in return. Since it seems clear that the Caribbean side of Central America supports the richest fauna, and that a sea-level canal would permit a formerly complete barrier to become passable, the predominate faunal movement would be from the Atlantic to the Pacific.

The second important principle states that along mainland shorelines each major habitat is probably supporting its maximum number of species. In such situations, it must be recognized that the introduction of additional species can only temporarily increase the diversity and that, over a period of time, the number of species present can be expected to drop back to its original level. This means that a species that has been introduced or has migrated into a new area may either survive in its new home by eliminating a species already there or it may meet so much resistance by the native species that it will be unable to establish itself.

It was observed that, in the advent of a sea-level canal across Panama, we may expect several thousand Atlantic species of marine animals would succeed in reaching the Pacific and vice versa. What would be the results of such a mixture? It was predicted, on the basis of the two principles stated above, that (1) the Atlantic species would prove to be the better competitors and (2) they would eventually eliminate their Pacific relatives.

It is the prospect of a huge and irrevocable loss of perhaps thousands of species native to the Eastern Pacific that constitutes the major biological problem presented by the Panama sea-level canal. In contrast, the fauna of the Western Atlantic may remain relatively little affected. However, there does exist in the Eastern Pacific a number of marine animals that originally came from the Indo-West Pacific, the largest and most diverse of all the tropical regions. Among them are such animals as the poisonous seasnake and the crown-of-thorns starfish. It is expected that these animals would be capable of migrat-

ing through a saltwater canal and, once having gained access to the Atlantic, would establish themselves in that ocean.

Dr. Briggs concluded his presentation by advocating the "Terminal Lake-Third Locks Plan" as an alternative to a sea-level canal. Briefly, this Plan would modify the present canal by eliminating the Pedro Miguel Locks, combining Gatun and Miraflores Lakes into one body of water, and installing a third set of larger locks. The Plan has highly important advantages: (1) we would still have a freshwater canal that would prevent inter-oceanic movement of marine animals, (2) capacity would be increased enough to allow about the same amount of ship traffic as would be provided by a sea-level canal, and (3) the construction cost would be about \$850 million compared to at least \$2.88 billion for a sea-level structure.

CONCLUSIONS

Although the subject of the Symposium was the biological effects of interoceanic canals in general, its focal point was the prospect of the construction by the United States of a sea-level canal across Panama. The information presented about the Bosphorus and the Suez Canal served to underscore the importance of the possible marine biological effects of the Panama proposal. I believe it is fair to state that, in general, the delegates felt that a Panama sea-level canal should not be built without strong, dependable safeguards to prevent migrations by marine animals. Considerable interest was expressed in the Terminal Lake-Third Locks Plan with its obvious advantage of permitting the continuation of the present, effective freshwater barrier.

MAN AND BEAST THREATEN GIANT GALAPAGOS TORTOISES

(National Geographic News Bulletin, November 7, 1972.)

Giant tortoises of Ecuador's Galapagos Islands like the easy life.

The reptiles, some weighing up to 600 pounds, sleep about 16 hours a day and spend the rest of the time grazing and browsing. They usually retire at the genteel hour of four or five in the afternoon, spending the cool night half-submerged in mud or water, or burrowed into dense brush.

Face Grave Threats

The tortoises may be dozing toward extinction. Since naturalist Charles Darwin first visited the Galapagos Archipelago in 1835, man has eliminated the creatures from two of the islands, and the surviving populations face great perils, reports Craig MacFarland in the November *National Geographic*.

Supported by the National Science Foundation and the National Geographic Society, Mr. MacFarland recently completed a two-year study of the large, cold-blooded land animals.

Man has menaced the tortoises since the 17th century. Buccaneers stacked the unfortunate animals in the holds of their vessels. Even without food or water, they survived as long as 18 months, and were still fat and succulent when finally made into a stew called "sea pie."

Destruction from whalers, merchantmen, fur sealers, and oil hunters continued almost to the present day.

Man also introduced another threat by inadvertently bringing domestic mammals to the islands. Feral goats, burros, and cattle compete with the tortoises for food. A wild pig can dig up dozens of tortoise nests in a night and never miss an egg. Cats, rats, and dogs wreak similar havoc.

Visitors pose a new problem. The archipelago suddenly has blossomed as a tourist attraction. In 1969 no more than 200 people visited the islands. Next year 5,000 to 6,000 are expected.

Tortoises' Turf Protected

Hoping to preserve the unique Galapagos environment, Ecuador set aside all uninhabited areas as a national park in 1959. Hunting or capturing of native animals, including the tortoises, is specifically prohibited. A 1970 law forbids export of endangered species from Ecuador except for scientific research or governmental interchange.

Poaching by island settlers, a perennial problem, has been greatly reduced by regular patrols. A new control program holds down the numbers of wild goats and pigs.

However remarkable the tortoises may be, even more surprising are the creatures' relationships with other animals. Stretching out their necks and legs, the tortoises expose annoying ticks on their bodies to finches. The obliging birds pull the insects from the reptiles' tough hide and eat them.

Says Mr. MacFarland, "We saw the same behavior in other races of tortoises. This cooperative behavior, advantageous to birds and beasts alike, has never before been reported."

FRIENDS OF THE EARTH

620 C STREET, S.E., WASHINGTON, D. C. 20003
(202) 543-4313

DAVID BROWER, *President*

August 14, 1973

The Honorable Leonor K. Sullivan, Chairman
Committee on Merchant Marine and Fisheries
U.S. House of Representatives
Washington, D.C. 20515

Dear Madam Chairman:

Friends of the Earth is deeply concerned about the Panama inter-oceanic canal question and its implications with respect to the conservation of marine resources.

In view of the support by the Governor of the Canal Zone of the sea-level canal proposal at hearings on July 17 before the Subcommittee on the Panama Canal, Friends of the Earth wishes to present testimony in opposition to any canal of sea-level design across the Isthmus. We believe that alternatives are available that will adequately serve the needs of the shipping industry by eliminating the bottlenecks in the present Panama Canal, without allowing disruption of the marine ecosystems in the adjacent waters, and without the exorbitant cost of a sea-level canal.

As evidence of our concern in this matter, a copy of the article by Dr. John C. Briggs from our newspaper, NOT MAN APART, is enclosed.

It has been reported that following the Subcommittee's visit to the Canal Zone in August that it will continue its hearings in September. Accordingly, Friends of the Earth wishes to present testimony at the September hearings on the Sea-level Canal question.

Sincerely,



George Alderson
Legislative Director

GA:jk

Enclosure

FRIENDS OF THE EARTH

620 C STREET, S.E., WASHINGTON, D. C. 20003

(202) 543-4313

DAVID BROWER, *President*

August 14, 1973

The Honorable Robert L. Leggett
Chairman, Subcommittee on the Panama Canal
Committee on Merchant Marine and Fisheries
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

The testimony of the Governor of the Canal Zone at the hearing on July 17 deeply concerns Friends of the Earth, because it implies that the Administration is becoming an advocate of a Panama Sea-level Canal.

We would appreciate the opportunity to testify on this proposal at one of your forthcoming hearings. It is important that the potential impact of the sea-level proposal on marine ecosystems be considered from the very start of deliberations on the subject of the sea-level canal. We believe that the risk of disruption of these systems—on which many people of the Americas depend—is so great as to rule out the sea-level canal.

Fortunately alternatives exist which do not entail the hazard to the fisheries resources, and would serve shipping needs at substantially less cost. According to the State Department, the Third Locks Plan or any other modernization within the present Canal Zone, could be done under the existing Treaty of 1903.

We would also be glad to supply the names of scientists who have done research on this topic whose testimony would be helpful at further hearings.

We note, in addition, that no Environmental Impact Statement has been filed by the Executive Branch either on the Sea-level Canal or on any alternative modernization plan. It would be both ill-advised and unlawful for the Executive Branch either to advocate or oppose any of these proposals before making the analysis that is required by the National Environmental Policy Act.

Sincerely,


George Alderson
Legislative Director

GA:jk



The Ocean Queen, center, and other ships at the Coast Guard's anchorage in the Stapleton Channel in the Narrows, off Staten Island, north of the Verrazano Bridge

Special to The New York Times

WASHINGTON, July 22 — Construction of a proposed sea level Panama Canal, recommended by a Presidential commission in 1970, received little support from shipping interests and the Governor of the Canal Zone in a Congressional hearing last week.

The views came in the first of a series of hearings before the Panama Canal Subcommittee of the House Merchant Marine and Fisheries Committee. The subcommittee, according to its chairman, Representative Robert L. Leggett, Democrat of California, is trying to ascertain the economic value of the canal to the United States and other nations.

Reluctant Shippers

Areas that the subcommittee hopes to investigate include the importance of the canal to shipping interests, present and future commodities shipped through the canal, possible re-

vision of tolls, the adequacy of the canal and future shipping requirements for the canal to the year 2000.

While shipping interests emphasized the past importance of the canal, they were reluctant to endorse the new sea level waterway, which has been estimated to cost \$3-billion to \$10-billion.

Albert E. May, representing the American Institute of Merchant Shipping, told the subcommittee that a poll of his 34-member organization last year disclosed that a majority of those responding indicated that a new waterway or modernization of the present canal would not increase their use of either canal.

"Support for a sea level canal was far less than I anticipated," Mr. May said.

The proposed canal, to be built 10 miles from the present 51-mile waterway, was recom-

mended in late 1970 after a five-year, \$22-million study by the Atlantic-Pacific Inter-oceanic Canal Study Commission. The cost was then estimated at \$2.8-billion, not including right-of-way payments to Panama.

No Urgent Necessity

Alfred Maskin, a representative of the American Maritime Association, had similar views of the waterway. Mr. Maskin said that "there would appear to be no urgent economic necessity for the construction of an entirely new canal."

Although proponents of the new waterway call it "economically marginal," they believe it would provide a chance to develop better relations with

Panama through a new treaty. Such a canal, they feel, would offer higher long-term capacity and would be relatively indestructible because it would have no locks.

But Mr. Maskin said the new canal would not be able to handle ships of more than 150,000 tons. And he feared that a new canal would raise tolls and require a new treaty with Panama. Talks between the United States and Panama are stalled over possible renegotiation of the original 1903 treaty.

David S. Parker, Governor of the Canal Zone and president of the Panama Canal Company, told the subcommittee that he supported the recommendation

of a sea level canal "at the appropriate time."

"I have informally supported it," he said, adding that the new canal should be built "sometime" rather than by a specific date.

Governor Parker, a career officer in the Army Corps of Engineers, also questioned the "utility of going the third-locks route." The third-lock plan would change the lock system on the Pacific side of the canal, add a third lock on each end of the canal and allow larger ships than the present 65,000-ton limit through the waterway.

Representative Daniel J.

Flood, Democrat of Pennsylvania, has introduced a bill in the House asking for \$950-million over 10 years for the project. According to the legislation, the plan would add 10,000 trips to the canal's estimated annual maximum of 26,800. The annual ship transits for each of the last five years have been more than 14,000.

Project Called Unfeasible

But Governor Parker, in his rejection of the third-locks proposal, said he did not think the project was feasible economically, militarily or politically. He maintained that the time

to switch to facilities for larger ships was some years away. Predicting that older and smaller ships "won't vanish," he said it would be "10 years before a decision has to be made."

A staff aide, asked if he was surprised by Governor Parker's opposition to the third-locks plan, said, "Weren't we all?" He added, "It looks like he would rather do nothing," referring to the proposed sea level canal and the expansion project.

The next hearings on the operations of the canal are scheduled for September or early October.

CONSTANTINE G. GRATSOS
888 SEVENTH AVENUE
NEW YORK, NEW YORK 10019

July 16, 1973

Hon. John M. Murphy, M.C.
U. S. House of Representatives
Washington, D.C.

Dear Congressman Murphy:

As Executive Vice President of Victory Carriers, Inc., a New York based carrier, operating ships which utilize the Panama Canal, I would like to share some views with you which may be helpful in tomorrow's hearings of the Panama Canal Subcommittee of the Merchant Marine and Fisheries Committee.

The value of having a waterway across the Isthmus has been recognized since the age of discovery. Saving about 8000 nautical miles for inter-coastal voyages, its continued efficient operation is a matter of prime importance. Interoceanic commerce is concerned primarily with its continued safe, expeditious and convenient transit.

Ever since the opening in 1914 of the canal thoughtful mariners have often asked why the Atlantic end of the canal has only one group of 3 lifts locks to raise vessels from sea level to the Gatun Lake level, about 85 feet high, while at the Pacific end of the Canal there are two groups of locks separated by a small intermediate level Miraflores Lake, 54 feet above mean sea level.

These experienced navigators generally recognize the differences between the two ends of the canal and have often reported to their operating companies about the double set of difficulties experienced when transiting the Pacific Locks. I have observed these difficulties from personal observation during transit of the canal.

For more than half a century every vessel that has passed through the Pacific Locks has had to make two approaches, make fast twice to towing locomotives, and let go twice as compared to only once for these operations at Gatun. The Pacific arrangement has involved not only loss of transit time but has also added to the danger of marine accidents. Our ship masters have often stressed the marine operational benefits that would accrue from the consolidation of the Pacific Locks in three lifts as close to the seas as possible so as to correspond with the layout at Gatun.

The crucial tests of World War II and marine operational studies incident thereto made in the Panama Canal organization inspired the development by the personnel in that agency of a proposal for the future canal based upon navigational experience, known as the Terminal Lake-Third Locks Plan.

Because of its inherent advantages, which are perfectly obvious, it makes a strong appeal to thoughtful mariners and their principals as the only logical solution of the Canal question when all its main aspects are considered. In this connection, I would emphasize that any plan that does not eliminate the bottle neck locks at Pedro Miguel does not merit the support of the Merchant Marine and from our point of view would be useless.

The problem of increasing the capacity of the Panama Canal has two elements of great interest to the merchant marine; locks and transit capacity.

The usable dimensions of the present locks are 110 feet by 1000 feet by 41 feet. While these dimensions are sufficient for a majority of the vessels that transit, the number of larger ones is steadily increasing to such a point that even Panama Canal pilots have publicly complained about the locks being too small for some of the traffic.

The fact that the transit capacity can be increased by certain improvement is not enough. With the exception of the widened Gaillard cut the Canal is essentially what it was when opened to traffic 59 years ago. Specifically, many ship masters have complained that the location of the Pedro Miguel Locks squarely across the mouth of Gaillard cut causes problems and loses time. Those who have studied the subject almost uniformly urge the elimination of these locks for an adequate modernization. As previously indicated, any plan that does not provide for the physical removal of these locks cannot solve the marine problems of the Canal. Instead it would perpetuate what experience has shown to have been the fundamental error in the design of the Panama Canal - the separation of the Pacific Locks.

What is needed for the Panama Canal is a two way ship channel through the continental divide with a traffic reservoir in the summit level at each end.

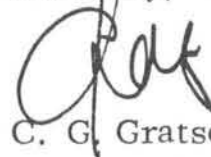
July 16, 1973

The reservoir at the Atlantic end is supplied by Gatun Lake; the needed basin at the Pacific end would be provided by the elevated Miraflores Lake. And such a canal would be the best canal for the transit of vessels and it would be provided by H. R. 1517. The recommended modernization program involves much work: two years for planning and about eight years for construction. Prompt passage of the bill is recommended.

In addition to the increase in capacity and safety provided by the Terminal Lake-Third Locks Plan ships would obtain the added benefit of an increase of the water supply which would reduce the present problems caused by seasonal shortages of water.

Major modernization of the Panamal Canal would be expensive, of course. But as time goes on costs would inevitably increase so that it is mandatory to undertake the project at the earliest moment. Panama Canal tolls can be raised within reason, and I believe that any increase in tolls should be allocated toward the improvement of the canal, not only for the benefit of American Shipping but for the commerce of the entire world.

Sincerely,

A handwritten signature in dark ink, appearing to read 'C. G. Gratsos', with a stylized, cursive script.

C. G. Gratsos

CGG/jl

CONSTANTINE G. GRATSOS
888 SEVENTH AVENUE
NEW YORK, NEW YORK 10019

August 23, 1973

Senator John C. Stennis, Chairman
Committee on Armed Services
United States Senate
Washington, D.C. 20515

Dear Mr. Chairman:

The parts of the Merchant Marine that regularly use the Panama Canal are keenly interested in developments affecting its operational improvement. In a recent letter of mine to Senator Thurmond, which he quoted in an address to the Senate on August 2, 1973, on the occasion of his introduction of S.2330, I summarized my views gained through years of experience as a shipping executive and observer of canal operations during numerous transits.

While there is little to add to what has already been stated, there are a number of points that should be stressed:

1. Panama Canal pilots have publicized some of their complaints in regard to the transit of the largest vessels that now use the Canal. (The Master, Mate & Pilot, July 1973, p. 13.)
2. The most urgently needed operational improvement in the existing canal is a 2-way uninterrupted and safe ship channel in the summit level from the Atlantic Locks to the Pacific Locks.
3. Such operational improvements would be provided only by the Terminal Lake Third Locks Plan. This proposal would --
 - (a) Eliminate the dangerous bottleneck locks at Pedro Miguel;
 - (b) Create an urgently needed summit level terminal lake at the Pacific end of the canal;
 - (c) Provide one set of larger locks at each end of the canal and correlated channels as well as harbor improvements for the larger vessels using those locks;
 - (d) Increase the reserve water storage for lockages and navigation during dry seasons.

4. This program can be accomplished without treaty involvement and with every assurance of success because it has been tested since 1914 in the Atlantic end of the canal at Gatun and found eminently satisfactory as compared to the highly unsatisfactory operating conditions in the Pacific end.

In regard to navigation of large vessels in Gatun Lake it must be realized that the larger the vessel the longer its turning radius. For the largest vessels that now transit, it appears that their turning radii are longer than the radii of certain channel bends, thus at times requiring the use of ships engines when changing course. Such facts and the continued increase in the size of vessels emphasize the necessity for the major modernization of the existing Panama Canal without further delay. This would include correlated channel and harbor improvements as parts of the overall program.

Accordingly, on behalf of my principals and many ship masters who make regular transits of the canal, I would respectfully urge prompt hearings and favorable action by the 93rd Congress on the Thurmond-Flood bills as being in the best interests of the Merchant Marine, which under law must bear the costs of maintaining and operating the canal through tolls.

Sincerely yours,

C. G. Gratsos

CGG/jl
Enclosure (1)

PANAMA CANAL: TERMINAL LAKE MODERNIZATION PROGRAM DERIVED FROM WORLD WAR II EXPERIENCE

Mr. MARTIN of Iowa. Mr. President, I present, for appropriate reference, and ask unanimous consent to have printed at this point in the RECORD, a special report of the General Board of the Navy to the Secretary of the Navy dated September 30, 1943, which summarizes preliminary naval studies on the Terminal Lake-third locks plan for the major operational improvement of the Panama Canal and gives its recommendation, together with a preliminary statement of my own.

The VICE PRESIDENT. Without objection, the statement and the report will be appropriately referred and printed in the RECORD.

There being no objection, both the statement and indicated General Board report were referred to the Committee on Interstate and Foreign Commerce, and ordered to be printed in the RECORD, as follows:

PRELIMINARY STATEMENT BY SENATOR MARTIN OF IOWA

In my statement to the Senate in the CONGRESSIONAL RECORD of June 21, 1956, I quoted a previously classified preliminary report prepared at the request of the Secretary of War by Gov. Glen E. Edgerton of the Panama Canal dated January 17, 1944, relative to proposals for the elimination of the Pedro Miguel locks, which report was supplied at my request by the Assistant Secretary of the Army, Hon. George H. Roderick.

The report of Governor Edgerton approved in principle and recommended to the Secretary of War for thorough investigation a proposal for the major operational improvement of the Panama Canal known as the Terminal Lake-third locks plan, which had been developed during 1942 and 1943 in the Department of Operation and Maintenance of the Panama Canal as the result of experience in World War II. It warned, however, that sea-level advocates would oppose unjustifiably any expensive change in the present plans on the grounds that it would defer the time when conversion of the existing canal to a sea-level waterway might otherwise be authorized. Moreover, it revealed that the terminal-lake proposal had been transmitted to the Secretary of War by the Secretary of the Navy on September 7, 1943, with a request for study of the subject so that the practicability and advisability of the program might be discussed jointly and the President advised in the premises. The Secretary of the Navy at the same time also submitted the plan to the President.

The 1944 Edgerton report lists some of the key documents concerning the conception and study of the plan in the canal organization and its review in the Department of the Navy.

On my request to the Secretary of the Navy, Hon. Thomas S. Gates, Jr., the Department of the Navy on July 3, 1957, transmitted to me copies of the principal 1943-44 naval documents concerning its initial review and study of terminal lake proposal, which have had their security classification removed.

The essentials of those naval views were summarized in a report by the Chairman of the General Board of the Navy to the Secretary of the Navy dated September 30, 1943, submitted after a visitation in the Canal Zone by a member of the board and extensive consultations with Panama Canal and naval officials, and experienced canal pilots.

The indicated documents start with submission of the plan on June 17, 1943, to the Department of the Navy and end with an analysis of the indicated Edgerton report under the date of March 18, 1944. Notwithstanding their advisory and preliminary nature, certain information and principles concerning canal problems developed in these documents are fundamental. To that extent, they represent the considered opinions of some of the most distinguished naval officers of the 20th century, who, as members of the General Board or in administrative capacities in the Department of the Navy, participated in the naval review.

Based primarily on practical considerations of navigation and marine operations, the reports fully favored modification of the authorized third locks project to provide a summit-level terminal lake anchorage in the Pacific sector of the canal to serve as a traffic mobilization basin corresponding with that at Gatun in the Atlantic end. The General Board, in its report to the Secretary of the Navy on September 30, 1943, recommended that the Navy Department "strongly endorse the subject plan at the appropriate time."

Furthermore, after considering the relative merits of the types of canal, which has always been a subject of keen controversy for reasons not remotely related to navigation, the report expressed the following conclusion: "The General Board is much impressed by the great preponderance of evidence in favor of the lock type and considers that the opinions presented, supported as they are by experience, fully justify the abandonment of the idea of a sea-level canal across the Isthmus of Panama."

After receipt of the 1944 Edgerton report to the Secretary of War on elimination of the Pedro Miguel locks, previously mentioned, the Secretary of the Navy referred it to the General Board, where it was studied and summarized in a report to the Chairman of the Board dated March 18, 1944. This report reiterated the September 30, 1943, General Board recommendation that the Navy Department strongly support the terminal lake proposal at the appropriate time, which, it prophetically estimated would be "well into the future."

These 1943 and 1944 naval recommendations, it should be emphasized, were made prior to the advent of the atomic bomb, when the controlling considerations in canal planning were capacity, operational, engineering, and economic. Thus, the repeated suggestions by its advocates that the sea level project has had unqualified support in the past of the General Board is not only erroneous but definitely misleading.

Following the military use of the atomic bomb, Panama Canal officials, through administrative channels, sought and secured enactment of Public Law 280, 79th Congress, approved December 28, 1945, authorizing the Governor of the Panama Canal to make a comprehensive review and study of the means for increasing the capacity and security of the Panama Canal to meet the future needs of interoceanic commerce and national defense, including consideration of canals at other locations and a restudy of the authorized third lock project. It is, I believe, significant that this legislation was enacted after the death of President Franklin D. Roosevelt to whom the terminal lake proposal had been submitted in 1943 and who is reported to have been favorably disposed thereto.

The original third lock project, it should be noted, had been suspended in May 1942 after expenditure of \$75 million mostly on lock site excavations at Gatun and Miraflores. These excavations, in event of resumption of construction, would be substantial contributions toward completion of the authorized project as improved through

adaptation to the principles of the terminal lake proposal.

The hearings prior to the enactment of Public Law 280, 79th Congress, were held on November 15, 1945, in executive session; and maritime interests, including the Navy, were not represented. The only witness was the Governor of the Panama Canal (J. C. Mehafee), who, it is noted, did not inform the Committee on Merchant Marine and Fisheries about the official views of the Navy.

When questioned by a member of the committee as to whether he approved the terminal lake proposal in principle, Governor Mehafee stated: "In general, yes; if the third locks were constructed, I believe we would recommend a modification of the original project to include the terminal lake." (See Executive Hearings on Panama Canal Facilities before Committee on Merchant Marine and Fisheries, November 15, 1945, p. 9.) This was the second formal approval of the terminal lake proposal by a Governor of the Panama Canal for the major modification of the existing waterway.

Under an extreme interpretation of the security and national defense factors of the statute as paramount and controlling, the report of this governor's inquiry, which was transmitted to the Congress on December 1, 1947, and significantly, without Presidential approval, comment, or recommendation, advocated only the sea-level project for major construction at Panama.

Regardless of the official concurrences in the main premises of the report, security, and national defense, that may have been made by certain executive agencies, the extensive and rigorous clarifications of these and other vitally important phases of the canal problem since its submission to the Congress and the subsequent tremendous advances in the destructive powers of modern weapons culminating in the H-bomb, have, in the opinion of many distinguished independent physicists, nuclear warfare engineering, and other experts, served to restore the canal situation to what it was in 1943, when the Terminal Lake-third locks plan, developed as the result of war experience, was first supported in principle by both Panama Canal and naval authorities and submitted to the President. Thus, the Panama Canal problem consists of a combination of capacity, engineering, marine operational, and constructional planning to secure the best operational canal for the transit of vessels practicable of economic attainment.

Hence, the views of the Department of the Navy, as developed in the September 30, 1943, report of the General Board, constitute a state paper of primary importance.

When judged by its consequences, which have been far reaching, the development of the Terminal Lake-third locks proposal was one of the great constructive projects to grow out of World War II. Its story forms an important chapter in Isthmian history which emphasizes further that questions of major interoceanic canal policy are not proper matters for exclusive control by ex parte or routine administrative groups, which, in the normal course of events, would expect to benefit from their own recommendations. The United States has had enough of organized drives for predetermined objectives at Panama that have disregarded costs and consequences.

As previously expressed in my statement to the Senate of June 21, 1956, all of these facts add up to indicate the absolute importance for prompt authorization by the Congress to secure an independent inquiry of the entire interoceanic canals problem along the line contemplated in the bipartisan measures now pending in both Houses. A series of crises affecting the operation of the canal, the latest of which are a shortage of water in the summit level coupled with

the highest traffic volume in history, stress the necessity for timely legislation before an overwhelming crisis forces hasty action.

**REPORT BY THE GENERAL BOARD OF THE NAVY
ON THE TERMINAL LAKE-THIRD LOCKS PLAN,
SEPTEMBER 30, 1943**

From Chairman General Board.

To the Secretary of the Navy.

Subject: Panama Canal, Plan for improvement.

Reference: (a) ComFifteen letter 15 ND HG (03) of 17 June 1943, and enclosures.

1. By the fifth endorsement of the reference, the Secretary of the Navy has directed the General Board to study a proposed plan for the improvement of the operating features of the Panama Canal and to make recommendation. The plan and several alternative schemes for its accomplishment are now being considered by the Governor of the Panama Canal and until his investigations are completed neither the Secretary of War nor the Secretary of the Navy will have the benefit of the Governor's expert engineering and operating advice. Therefore, the Board assumes that studies of the subject by the Navy Department are now of a preliminary nature, with the view primarily of determining the Navy's special interest in the project as a whole, to be presented to the War Department when appropriate.

2. It is to be noted that there is now in existence an approved plan for the improvement of the canal, authorized by Congress and referred to hereinafter as the third lock program. The purpose of this program is to increase the capacity of the canal, to permit transit of large naval vessels, and to attain greater security from bombing attack. Work on this program was actually begun in 1940 but was suspended in 1942 in favor of projects deemed more essential to the successful prosecution of the war.

3. The controlling feature of the subject plan is the creation of a summit level anchorage in Miraflores Lake in order to provide a traffic expansion chamber at the Pacific terminal. By making provision for safe summit level anchorages for vessels as they emerge from the Gaillard Cut, the transit of the cut becomes independent of Pedro Miguel locks which now constitute the bottleneck of the canal. The purpose of the plan is to improve marine operating conditions, reduce accidents, reduce the time of transit, and reduce the wear on piloting personnel. Essential to its accomplishment are the removal of the Pedro Miguel locks and the construction of one or more sets of triple-lift locks on the general site of the Pacific entrance to the canal.

4. This plan is not a new concept but is, rather, an old one backed by the force of operating experience gained during the 29 years that the canal has been in operation. The need for spacious summit-level anchorages at both ends was early recognized but the canal, as it stands today, meets that need at Gatun only. Colonel Sibert, the builder of Gatun locks, wanted to place all Pacific locks in one structure as at Gatun but the Pacific locks had already been started and the change would have involved a delay in the opening of the canal. The President decided against the proposal because a change in plans might have been construed, by the proponents of a sea-level canal, as evidence of the weakness of a lock canal. Prior to this, in 1906, Mr. Stevens had recommended to Congress the combination of all Pacific locks into one structure. Going as far back as 1879, the French Engineer de Lepinay had proposed the creation of a large artificial summit-level lake at each terminal, to be connected with sea level by locks. Years later his proposal was adopted at the Atlantic terminal and took the form of Gatun Lake. But there is no equivalent at the Pacific terminal.

5. The present anchorage space at Gatun supplies a stopover station for both north

and southbound vessels and permits unrestricted operation of Gatun locks. At Pedro Miguel there is no comparable anchorage space for ships as they emerge from Gaillard cut. The Pedro Miguel locks are located squarely in the south end of the cut and they restrict passage through the cut to the capacity of the locks. While northbound traffic can and does enter the cut at lockage intervals, southbound vessels cannot arrive in the cut any faster than they can be received at the Pacific locks. Vessels have to approach the latter locks in a relatively narrow passage; they cannot anchor for they would swing into a rocky bank; they cannot slow too much or they will lose steerage way and drift ashore. The resulting dispatching problem causes delays, at times endangers the canal and ships, and wears out piloting personnel. The situation is aggravated because the canal between Pedro Miguel and Bohio is subject to dense fog. When there is fog in the cut, vessels, after leaving the locks, can only tie up to the north wall at Pedro Miguel. When the north wall is filled to capacity all northbound traffic must stop and Pedro Miguel lockages and Miraflores lockages must cease.

6. The facts presented in the preceding paragraphs have been extracted from the enclosures to the reference. The latter were prepared by the present port captain at Balboa, Comdr. Miles P. DuVal, United States Navy, as a result of his own experience and study, and in collaboration with other canal authorities as well as with the commandant, 15th Naval District. These enclosures present a well-rounded picture of present operating conditions, and their difficulties, together with alternative schemes for solving the major problems. Included therewith is an exhaustive discussion, ably presented, of the marine features of the sea-level type of canal, as compared with the lock type. The general board is much impressed by the great preponderance of evidence in favor of the lock type and considers that the opinions presented, supported as they are by experience, fully justify the abandonment of the idea of a sea-level canal across the Isthmus of Panama.

7. That part of the third-lock program which has to do with the Pacific terminal locks is closely related to the subject under discussion. Adopted when war began to threaten, the third-lock program is, in principle, an acceptance of the present arrangement of the Pacific locks. Under this program the new and larger locks would be placed at a distance from the present locks in order to disperse the lock structures and lessen the chances of danger from bombing attack. There would be 1 new triple-lift lock at Gatun, 1 new two-lift lock at Miraflores, and a new single-lift lock at Pedro Miguel, the last named located on a new channel which, passing Cerro Paraiso on its south and west sides would connect Miraflores Lake with the entrance to the Gaillard Cut.

8. Suspension of work on this program has taken place at a stage in its completion that affords an opportunity to reexamine its features, some of which appear to introduce additional dangers and complications and others to continue present difficulties. If the program were to be carried through, the bottleneck of Pedro Miguel would be perpetuated and any chance of providing an essential traffic reservoir at Miraflores would be lost. The turns in the new channel (one of which amounts to 47°17'), and its intersection with Gaillard Cut, would become new foci of accidents. It has also been developed that the proposed new Pedro Miguel Lock would be on the worst foundation of all locks. But, fortunately, there has been no excavation along the line of the proposed new channel around Cerro Paraiso and the subject plan does not, therefore, call for the abandonment of any work already completed under the third-lock program. On the other hand, the excavation which has already been

accomplished in anticipation of the erection of the new (third) Miraflores two-lift lock is available for use in connection with a set or sets of triple-lift locks as contemplated in the subject plan.

9. All of the schemes suggested as suitable for making effective the subject plan, include provision for maintaining traffic during the reconstruction period. Of the three schemes suggested by Commander DuVal, the papers submitted to the Board indicate preference for scheme C, an arrangement in which the present Miraflores Locks are abandoned, three new sets of triple-lift locks placed near the third lock site, and dispersion obtained by increasing the spacing between the locks. The Bureau of Yards and Docks in its (second) endorsement on the reference presents a fourth scheme which proposes the construction of a single set of triple-lift locks on the present Miraflores site and of two new sets of triple-lift locks near the third lock site. This plan offers advantages from the standpoint of maintenance of canal traffic at the expense of longer time to complete. Both of these latter schemes utilize the cut already excavated, although neither suggests the extent to which the new sets of locks should be separated from each other in order to attain greater security from bombing attacks.

10. Disability of the canal may be from damage at a single point, or from damage at several points through a large-scale attack. The extent of damage to a group of locks from a single hit is increased when one set of that group has any part of its structure, or operating equipment, in common with another set; this is the present situation, all existing locks being in pairs. It does not follow, however, that immunity from damage can be secured merely by increasing the space between the several sets of locks, or by separating the groups. Each set may be attacked separately and, if not successfully defended, all sets, even though widely separated, may be destroyed by a single large-scale attack. The breaching of all the gates (including the emergency gates), of only one upper lock, regardless of its location with respect to another set, would disable the entire canal by lowering the water level. The Pedro Miguel locks provide a case in point; although they are located at some distance from Miraflores, the destruction of the gates of one set would render the Gaillard Cut unnavigable. When the restrictions imposed by the size and topography of the Canal Zone are taken fully into account, it seems apparent that the greatest dispersion possible does not render the canal secure against large-scale bombing attacks. The present locks are not dispersed; their security lies in their degree of invulnerability, their defense, and in the precautions taken to prevent surprise.

11. For these fundamental reasons the General Board, although not competent to base its opinions on technical grounds, believes that sound engineering, and safety and facility of marine operation, are the primary considerations to be balanced against questions of dispersion or separation of the locks. Above all, the latter should not be allowed to obscure the necessity for a traffic expansion chamber at the Pacific terminal, the controlling feature of the subject plan. The cut already excavated under the third-lock program establishes the distance between the new and the present Miraflores Lock sites. Assuming that this cut will be utilized, whatever plan is finally adopted, the Board believes that further questions of vulnerability and security from bombing attack should be left to those responsible for the design of the locks, and those charged with the defense of the canal.

12. Appendix A, attached hereto, summarizes the marine advantages claimed for the subject plan, regardless of the particular scheme adopted for its accomplishment.

All of these advantages will accrue to the Navy in moving its ships quickly and in large numbers from one ocean to the other as strategic and tactical considerations may dictate. The General Board, itself strongly in favor of the basic idea, has been unable to detect, either in any correspondence, or in conversation, any opposition thereto. A member of the Board, during a recent visit to the Canal Zone, noted the same favorable reaction during all discussions, including those he had with Governor Edgerton. With the canal authorities, including experienced pilots, and the commandant, 15th Naval District, all favorably disposed, the project at present resolves itself into a question of practical ways and means which, as noted earlier herein, are being investigated by the Governor.

13. As a result of its study, the General Board recommends that the Navy Department strongly endorse the subject plan at the appropriate time.

A. J. HEPBURN.

APPENDIX A

MARINE ADVANTAGES OF PROPOSED PLAN FOR IMPROVEMENT OF PANAMA CANAL

Provides safe summit level anchorage for vessels as they emerge from the cut.

Eliminates Pedro Miguel Locks as the bottleneck of the canal.

Makes transit of cut independent of Pedro Miguel Locks.

Simplifies problem of dispatching.

Reduces time of transit.

Increases safety of transit.

Makes operation of Miraflores Locks independent of fog in Gaillard Cut.

Increases traffic capacity.

Eliminates lockage surges from cut as a navigational hazard.

Increases usable dry season storage in summit level.

CIVIL RIGHTS

Mr. CLARK. Mr. President, now that the civil rights bill has been passed and is on its way to the President, some of us are concerned as to how the Commission and the additional Assistant Attorney General will be financed.

I wonder if the distinguished minority leader would be able to give us some assurance that appropriations will be available from which the Commission, as well as the Assistant Attorney General, can be adequately financed, so that we can go home with a conviction that the members of the Commission can be appointed soon and go to work, without there being the necessity for any other appropriation.

Mr. KNOWLAND. Mr. President, I will say to the Senator from Pennsylvania that I cannot give a complete and categorical answer to his inquiry. I believe, however, that there are sufficient funds in the Department of Justice appropriations, in the case of the Assistant Attorney General. In the case of the Commission, if necessary there are sufficient funds in the President's special emergency funds at least to get the Commission started on its work.

Mr. CLARK. I thank the Senator from California.

Mr. JAVITS. Mr. President, will the Senator inform us as to whether he thinks the work will be impeded by the need for getting confirmation of the Director of the Commission?

Mr. KNOWLAND. I will say to the Senator, again I would not want to give a categorical answer to the Senator in

that regard, but I hope, in the same spirit that the legislation was passed, that when the names are sent to the Senate and we have reconvened, there will be no unnecessary delay in having confirmation of the nominations.

Mr. JAVITS. Does the Senator believe these positions are subject to recess appointments?

Mr. KNOWLAND. I believe they are. Mr. JAVITS. I thank the Senator.

ADDRESS BY LEWIS A. LAPHAM, PRESIDENT OF GRACE LINE, INC.

Mr. BEALL. Mr. President, in connection with the most recent developments in our maritime history, Mr. Lewis A. Lapham, president of Grace Line, Inc., delivered a constructive and interesting address which justifies the attention and reading of Members of the Congress and of the public generally. The speech was delivered at the christening of the steamship *Santa Rosa* on August 28, when interested supporters of the American merchant marine journeyed to Newport News to see two ships of the same name—one a replacement of the other, floating side by side. The modern ship just off the ways will replace the steamship *Santa Rosa* which for 25 years has transported thousands of Americans between our ports and ports of South America.

Mr. Lapham is one of the outstanding shipping officials of our country and has maintained the highest standards to which the Grace Line has adhered over decades of successful operations. In view of the importance of this ceremony and of the appropriateness of Mr. Lapham's remarks, I ask unanimous consent that the text of his address be printed in the CONGRESSIONAL RECORD.

There being no objection, the address was ordered to be printed in the RECORD, as follows:

REMARKS OF LEWIS A. LAPHAM, PRESIDENT, GRACE LINE, INC.

It goes without saying that this day is a marvelously pleasant and memorable one for the Grace Line. Traditionally, I suspect, I should speak about the new ship, the new *Santa Rosa*, which looms above us. But like most ships, this one will speak for herself, and if you will forgive a certain prejudice, I think she will speak better than most, as has her predecessor, the old *Santa Rosa*, laying off in the James River before you and getting ready even now to whistle her namesake here hull and farewell.

But I would rather speak, briefly, of what is behind the ship and how she came to be.

She will be the first passenger vessel built and launched in the shipping industry's overall replacement program, and she marks as well the first building of the Grace Line's own construction program, the largest by far the line has undertaken in its hundred years of existence. But her building has not just happened in this year of 1957. Far from it.

She is part of a program that began, in essence, in 1936 with the passage of the Merchant Marine Act in that year. It is an act that has been most faithfully and intelligently administered by the responsible Government agency, and at no time, incidentally, better administered than under its present leadership. And it is an act that has been equally faithfully and intelligently complied with by the industry it serves.

This ship is the first of a program that will send down the ways some 300 United

States flag vessels over the next 12 years or so, a fleet of the finest, safest, and most effective ships afloat. It is a joint program of the industry and the Government, planned to provide an ocean-going transportation service for the overseas trade and support of a nation that demands and should have, the best.

All these things can be planned, of course, and talked about, but someone has to transmit the plans to paper and the paper to ships, and that just doesn't happen either. And I go no further with these remarks before expressing the Grace Line's warm and deep appreciation to Mr. William Francis Gibbs, who designed this ship, and to Newport News, who built it. The superb talents and craftsmanship that have gone into this new *Santa Rosa* make themselves manifest without any added comment from me, or anyone else. The performance is even more impressive when you consider that it was a bare 7½ months ago that some of us were here to see the keel plate for this same ship swung into place.

As for our sponsor today, she bears the most famous name in United States shipping history and we are delighted to have her. And a special touch of history is additionally with us in the person of the young maid of honor, Miss Carolyn Flint, a descendant of one of the families whose firm, Chapman & Flint, many years ago in Bath, Maine, built the clipper ship forerunners of the present Grace Line fleet.

The line has a host of other friends here, from the Federal Maritime Administration and other Government agencies, from the shipping world and its related industries, and to them all may I say, many, many thanks—we are complimented by your presence and are happy to have you with us, I promise you.

But nothing perhaps more significantly emphasizes the continuity of the program I have been talking about, of this lengthy maritime tradition, past, present and future, than the presence out there in the James River of the old *Santa Rosa*. She has had a long, proud service, in peace and in war, under her country's flag. And this occasion, unique, I suspect in seagoing history, is a fine climax for her honorable career.

REPORT ON 85TH CONGRESS, 1ST SESSION

Mr. JAVITS. Mr. President, under the heading of "85th Congress, 1st session, Final Report," I ask unanimous consent to have printed in the RECORD a report of the happenings of this session of the Congress.

There being no objection, the report was ordered to be printed in the RECORD, and will appear hereafter.

DEATH OF PETER K. MORSE, DEPUTY GENERAL COUNSEL, INTERNATIONAL COOPERATION ADMINISTRATION

Mr. MANSFIELD. Mr. President, it was with profound regret that I learned of the untimely death of Peter K. Morse, Deputy General Counsel of the International Cooperation Administration. Mr. Morse was killed in an automobile accident on Monday near Sharon, Mass. Mr. Morse was well and favorably known to many members of the Committee on Foreign Relations because of his work during the past several years in the presentation of the executive branch position on the foreign-aid programs.



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Senate

The Senate met at 11 a.m. and was called to order by Hon. WILLIAM D. HATHAWAY, a Senator from the State of Maine.

PRAYER

The Chaplain, the Reverend Edward L. R. Elson, D.D., offered the following prayer:

Our Father God, in whose providence this Nation was born and by whose spirit it has been guided, grant us now a constant awareness of Thy presence. Deliver us from all offenses against Thee and against one another. Above all suspicions, contentions, and indignations may we see lifted up the cross of forgiveness and reconciliation. Help us first to be our brother's brother before we attempt to be our brother's keeper.

"Reclothe us in our rightful mind,
In purer lives Thy service find,
In deeper reverence praise."

Bless all who serve in this place, granting us pure hearts and clear minds and sanctified motives, that we may be worthy partners with Thee in advancing Thy kingdom.

We pray in the Redeemer's name.
Amen.

By Mr. THURMOND:

S. 2330. A bill to provide for the increase of capacity and the improvement of operations of the Panama Canal, and

for other purposes. Referred to the Committee on Armed Services.

Mr. THURMOND. Mr. President, I am today introducing a bill for the major modernization and improvement of the Panama Canal. This bill is identical to H.R. 1517, introduced in the House by Mr. Flood of Pennsylvania, and similar to the measures for the enactment of the Terminal Lake-Third Locks plan which I have introduced in previous Congresses. I ask unanimous consent that it be printed in the Record at the conclusion of my remarks, and that it be referred to the Armed Services Committee as were its predecessors.

The advantages of this proposal are primarily twofold. On the technical side, it would increase the capacity both in regard to the size of vessels and the number of transits, and on the diplomatic side, it would provide an opportunity to strengthen our present troubled relationship with Panama.

Mr. President, the advantages of the Terminal Lake-Third Locks plan are such that it has been strongly endorsed this month by the largest organization of American flag shipowners, the American Maritime Association. I have also received a lengthy letter endorsing the plan from Constantine G. Gratsos, executive vice president of Victory Carriers of New York. Victory Carriers is the American flag line of the Aristotle Onassis worldwide shipping interests, and thus the letter carries with it in the maritime field the prestige of Mr. Onassis' expertise.

Mr. President, I ask unanimous consent that the letter from Mr. Gratsos also be printed in the Record at the conclusion of my remarks.

Before I go into detail about the technical improvements proposed in my bill, I would like to touch briefly upon its impact on international affairs. As everyone knows, our relationship with Panama has been aggravated by uncertain and dubious policies pursued by the U.S. State Department, and by calculated anti-Americanism on the part of certain elements in Panama. A massive undertaking such as this would afford many opportunities to work closely with constructive elements in Panama and improve the standard of living for every level of Panamanian society. Moreover, when completed, the plan would maximize employment of Panamanian citizens in Canal operations.

The question of new treaties with Panama is largely irrelevant to the undertaking of the improvements proposed in my bill. The juridical history clearly shows that such improvements would not change the basic alignment of the Canal Zone boundaries and thus would require no new treaties for construction to begin. In fact, the State Department has recently reiterated that the United States interprets the Treaty of 1903 as granting the United States by implication the right to expand the Panama Canal within the boundaries of the Canal Zone. The State Department went on to point out that this right was asserted and accepted by Panama in 1939 when construction was started on the earlier Third Locks project, a project which was stopped by World War II.

In my judgment, it would be rash in the extreme to disturb our historic sovereign rights in the Canal Zone. On the other hand, the guidelines for the present negotiations include the stipulation that any final treaty would have to contain permission to implement the Terminal Lake-Third Locks plan. When the major modernization program goes forward, Congress would merely be adding this new factor to its overall consideration of the merits of a new treaty.

The Terminal Lake-Third Locks plan has two closely related basic features: The increase of lock capacity; and operational improvement. The two aims are achieved hand in hand.

As those familiar with the Panama Canal know, the canal consists of a fresh water channel 87 feet above mean sea level. This channel was created by the damming of the Chagres River near its outlet into the Caribbean. On the Atlantic end, a vessel rises to the summit level by three lifts of locks grouped together. There are two lanes of these triple lifts. The vessel then crosses Gatun Lake, the artificial lake, until it comes to Gaillard Cut. This is a narrow channel, originally 300 feet wide, but recently widened to 500 feet, cut through the rock of the continental divide.

This narrow channel ends in the bottleneck of the Pedro Miguel locks. At Pedro Miguel, there is a one-lift lock, down to the level of Miraflores Lake. The vessel crosses this small lake to the Miraflores locks, which consist of two steps down to sea level.

This arrangement was a major flaw in the design of the original canal. As the vessel approaches the narrow bottleneck of the Pedro Miguel locks, it may experience navigational problems slowing down or stopping in a narrow channel. Studies have shown that there is a disproportionate number of accidents in this area. Only a few months ago, a Republic of China registry vessel, the *Shozan Maru* was removed after having been sunk near the bank near Pedro Miguel for nearly 2 years. Because of legal and engineering problems, the vessel remained a hazard to navigation during that period.

Moreover, once a vessel gets past Pedro Miguel, it must go through the operational procedures for locking once more at Miraflores locks. At the Atlantic end, the three lifts can be done in one coordinated operation, but at the Pacific end, the operation must be done twice.

The major feature of the Terminal Lake-Third locks plan is that it would raise the level of Miraflores Lake to the summit level, and reconstruct the locks in triple-lift fashion near Aguadulce. The Pedro Miguel locks—and the bottleneck—would be removed. The vessel could pass into a terminal lake for anchorage or maneuvering preparatory to entering the locks, and then pass through the triple-lift locks in one coordinated operation. This would speed up operations and reduce navigational hazards.

Two lanes of the new Pacific locks would be the same dimensions as at present—110 feet by 1,000 feet. A third lane—the so-called Third Locks—would be added with dimensions 140 feet by 1,200 feet. At the Atlantic terminal, the present

locks would remain, while a third lane would be constructed with dimensions of 140 feet by 1,200 feet. Thus the arrangement at each end would be symmetrical.

The new locks would be constructed in the excavations which were begun in 1941 for the earlier Third Locks project at each end of the canal and upon which \$76 million was spent. The excavations, as I pointed out earlier, were halted as a result of developments in World War II, a fortunate circumstance, since further study revealed important errors in overall design. All of the work done in these excavations would be usable in the revised Terminal Lake-Third Locks plan.

These new dimensions were arrived at after years of study as the best compromise between economy in construction, prudent use of water resources, and the toll structure. While it would not allow the passage of the big supertankers, it must be recognized that most of these vessels were designed for trade routes for which no transit of the Canal would be required. For example, the large crude oil carriers which we are now building, all in excess of 225,000 tons, will be used to bring oil from the Persian Gulf area to deep water facilities off the U.S. east coast. Moreover, the economies of scale with the big supertankers are such that tolls at any reasonable level—and even in a sea level canal—would be so high per transit that it would be cheaper to pay the costs of sailing around the capes rather than to transit the canal.

The proposed dimensions would accommodate virtually all ships in the U.S.-flag merchant fleet today, and most in the world fleet. At present the canal dimensions limit transits to ships of a maximum of 60,000 to 80,000 tons. The proposed dimensions would limit transits to ships of 120,000 tons laden, and 100,000 tons lightened. This would enable the use of 120,000-ton ships to carry liquefied natural gas from Siberia and Alaska to the east coast. It would also allow any crude oil from the Alaska pipeline which is in excess of the west coast requirements to be carried efficiently to refineries in gulf ports, east coast, or Puerto Rico.

It has been estimated that the present capacity of the canal will be reached by the end of this century. But present estimates are now being rapidly downgraded because of a new shipping phenomenon that has emerged in the past year—the rapid increase of ships being built to fit the present canal maximum dimensions. These new vessels, referred to as Panamax ships, have been engineered to take advantage of the maximum benefits obtained through canal passage. The first of these, the *Tokyo Bay*, which made its maiden transit last year, has a clearance of only 18 inches on each side in the locks. The Panama Canal Co. handles these transits with consummate skill and safety, but they take infinitely more care and attention.

Moreover, the proposed new dimensions would undoubtedly stimulate the construction of what might be called Panamax II ships. Panamax II ships would change the patterns of shipping to more efficient configurations that do not show up in current projections and estimates. In combination with container-

ization, the net advantage to the U.S. consumer would be significant.

I would also like to mention briefly that the Terminal-Lake-Third Locks plan would preserve the existing ecology of the Isthmus. The fresh water of the canal maintains the centuries-old barrier between the Atlantic and Pacific oceans. The development of salt water species in each ocean has proceeded independently, and scientists are convinced from observation and experiment that the mixture of the species, as would occur with a sea level canal, could have a devastating effect on valuable species that are not used to coping with predators from another ocean. This topic was covered not long ago in a major symposium at the Smithsonian Institution—which has a research station in the Canal Zone working on the problem. More recently, the biological hazards of the sea-level canal proposal were discussed at length last September at the International Scientific Congress at Monaco.

The disappearance of even one species which is an important protein supply to world food needs could be tragic. As an example, the American housewife is already feeling the effects of the disappearance of Peruvian anchovies, apparently from overfishing, which were a major source of cheap fishmeal for chicken feed. Opening up the Isthmus to a sea-level passage could well be opening up a Pandora's box for the world's food supply.

The Terminal Lake-Third Locks plan would provide needed improvements in the canal's capacity without disturbing the ecology of the region. For this reason, major environmental groups look upon the Terminal Lake-Third Locks plan as a positive step in averting ecological disaster.

Mr. President, the energy crisis is not the only situation that is causing us to revise the estimates of future world shipping. The food crisis is also going to be an important factor in U.S. trade. It now appears that the United States will be the largest exporter of food in the world. Already most cargoes that either enter or leave U.S. ports pass through the canal going or coming. The importance of the canal to our future export economy will bring about a new appreciation of its role in enhancing our national security.

The Terminal Lake-Third Locks plan was developed in the Panama Canal organization as a result of World War II experience, and has won the support of important maritime interests, experienced navigators and engineers. It is still recognized as the only practical alternative to proposals for a sea-level canal, and is the only feasible economic improvement plan, period. In commenting on the advantages of the Terminal Lake-Third Locks plan, Canal Zone Gov. David S. Parker summarized its advantages from an engineering point of view:

It would cost considerably less than a sea-level canal. Navigation through such a canal would be relatively simple because it would make use of the existing Gatun Lake, avoiding the currents and initially narrow channel of a sea-level canal. It would not alter materially the ecology of the area, Gatun Lake would be retained in its present

form, and there would be a barrier to the movement of biota from one ocean to another.

The letter of Mr. C. G. Gratsos, which I mentioned earlier, is also specific, from a navigational point of view. Mr. Gratsos says:

Ever since the opening in 1914 of the canal, thoughtful mariners have often asked why the Atlantic end of the Canal has only one group of 3-lift locks to raise vessels from sea level to the Gatun Lake level, about 85 feet high, while at the Pacific end of the Canal there are two groups of locks separated by a small intermediate level Miraflores Lake, 54 feet above mean sea level.

These experienced navigators generally recognize the differences between the two ends of the canal and have often reported to their operating companies about the double set of difficulties experienced when transiting the Pacific Locks. I have observed these difficulties from personal observation during transit of the Canal.

Mr. Gratsos concludes as follows:

The recommended modernization program involves much work; two years for planning and about eight years for construction. Prompt passage of the bill is recommended.

Mr. President, my bill would provide for the construction of the project as described, for the appointment of a Panama Canal Advisory and Inspection Board to review and approve all plans for construction, and for the authorization of \$950 million, of which \$45 million would be the initial appropriation.

There being no objection, the bill and material were ordered to be printed in the RECORD, as follows:

S. 2330

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Panama Canal Modernization Act."

SEC. 2. (a) The Governor of the Canal Zone, under the supervision of the Secretary of the Army, is authorized and directed to prosecute the work necessary to increase the capacity and improve the operations of the Panama Canal through the adaptation of the Third Locks project set forth in the report of the Governor of the Panama Canal, dated February 24, 1939 (House Document Numbered 210, Seventy-sixth Congress), and authorized to be undertaken by the Act of August 11, 1939 (53 Stat. 1409; Public Numbered 391, Seventy-sixth Congress), with usable lock dimensions of one hundred and forty feet by one thousand two hundred feet by not less than forty-five feet, and including the following: elimination of the Pedro Miguel Locks, and consolidation of all Pacific locks near Agua Dulce in new lock structures to correspond with the locks capacity at Gatun, raise the summit water level to its optimum height of approximately ninety-two feet, and provide a summit-level lake anchorage at the Pacific end of the canal, together with such appurtenant structures, works, and facilities, and enlargements or improvements of existing channels, structures, works, and facilities, as may be deemed necessary, at an estimated total cost not to exceed \$950,000,000, which is hereby authorized to be appropriated for this purpose: *Provided, however, That the initial appropriation for the fiscal year 1974 shall not exceed \$45,000,000.*

(b) The provisions of the second sentence and the second paragraph of the Act of August 11, 1939 (53 Stat. 1409; Public Numbered 391, Seventy-sixth Congress), shall apply with respect to the work authorized by subsection (a) of this section. As used in such Act, the terms "Governor of the Panama

Canal", "Secretary of War", and "Panama Railroad Company" shall be held and considered to refer to the "Governor of the Canal Zone", "Secretary of the Army", and "Panama Canal Company", respectively, for the purposes of this Act.

(c) In carrying out the purposes of this Act, the Governor of the Canal Zone may act and exercise his authority as President of the Panama Canal Company and may utilize the services and facilities of that company.

SEC. 3. (a) There is hereby established a board, to be known as the "Panama Canal Advisory and Inspection Board" (hereinafter referred to as the "Board").

(b) The Board shall be composed of five members who are citizens of the United States of America. Members of the Board shall be appointed by the President, by and with the advice and consent of the Senate, as follows:

(1) one member from private life, experienced and skilled in private business (including engineering);

(2) two members from private life, experienced and skilled in the science of engineering;

(3) one member who is a commissioned officer of the Corps of Engineers, United States Army (retired); and

(4) one member who is a commissioned officer of the line, United States Navy (retired).

(c) The President shall designate as Chairman of the Board one of the members experienced and skilled in the science of engineering.

(d) The President shall fill each vacancy on the Board in the same manner as the original appointment.

(e) The Board shall cease to exist on that date designated by the President as the date on which its work under this Act is completed.

(f) The Chairman of the Board shall be paid basic pay at the rate provided for level II of the Executive Schedule in section 5313 of title 5, United States Code. The other members of the Board appointed from private life shall be paid basic pay at a per annum rate which is \$500 less than the rate of basic pay of the Chairman. The members of the Board who are retired officers of the United States Army and the United States Navy each shall be paid at a rate of basic pay which, when added to his pay as a retired officer, will establish his total rate of pay from the United States at a per annum rate which is \$500 less than the rate of basic pay of the Chairman.

(g) The Board shall appoint, without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, a Secretary and such other personnel as may be necessary to carry out its functions and activities and shall fix their rates of basic pay in accordance with chapter 51 and subchapter III of chapter 53 of such title, relating to classification and General Schedule pay rates. The Secretary and other personnel of the Board shall serve at the pleasure of the Board.

SEC. 4. (a) The Board is authorized and directed to study and review all plans and designs for the Third Locks project referred to in section 2(a) of this Act, to make on-site studies and inspections of the Third Locks project, and to obtain current information on all phases of planning and construction with respect to such project. The Governor of the Canal Zone shall furnish and make available to the Board at all times current information with respect to such plans, designs, and construction. No construction work shall be commenced at any stage of the Third Locks project unless the plans and designs for such work, and all changes and modifications of such plans and designs, have been submitted by the Governor of the Canal Zone to, and have had the prior approval of, the Board. The Board

shall report promptly to the Governor of the Canal Zone the results of its studies and reviews of all plans and designs, including changes and modifications thereof, which have been submitted to the Board by the Governor of the Canal Zone, together with its approval or disapproval thereof, or its recommendations for changes or modifications thereof, and its reasons therefor.

(b) The Board shall submit to the President and to the Congress an annual report covering its activities and functions under this Act and the progress of the work on the Third Locks project and may submit, in its discretion, interim reports to the President and to the Congress with respect to these matters.

Sec. 5. For the purpose of conducting all studies, reviews, inquiries, and investigations deemed necessary by the Board in carrying out its functions and activities under this Act, the Board is authorized to utilize any official reports, documents, data, and papers in the possession of the United States Government and its officials; and the Board is given power to designate and authorize any member, or other personnel, of the Board, to administer oaths and affirmations, subpoena witnesses, take evidence, procure information and data, and require the production of any books, papers, or other documents and records which the Board may deem relevant or material to the performance of the functions and activities of the Board. Such attendance of witnesses, and the production of documentary evidence, may be required from any place in the United States, or any territory, or any other area under the control or jurisdiction of the United States, including the Canal Zone.

Sec. 6. In carrying out its functions and activities under this Act, the Board is authorized to obtain the services of experts and consultants or organizations there in accordance with section 3109 of title 5, United States Code, at rates not in excess of \$200 per diem.

Sec. 7. Upon request of the Board, the head of any department, agency, or establishment in the executive branch of the Federal Government is authorized to detail, on a reimbursable or nonreimbursable basis, for such period or periods as may be agreed upon by the Board and the head of the department, agency, or establishment concerned, any of the personnel of such department, agency, or establishment to assist the Board in carrying out its functions and activities under this Act.

Sec. 8. The Board may use the United States mails in the same manner and upon the same conditions as other departments and agencies of the United States.

Sec. 9. The Administrator of General Services or the President of the Panama Canal Company, or both, shall provide, on a reimbursable basis, such administrative support services for the Board as the Board may request.

Sec. 10. The Board may make expenditures for travel and subsistence expenses of members and personnel of the Board in accordance with chapter 57 of title 5, United States Code, for rent of quarters at the seat of government and in the Canal Zone, and for printing and binding as the Board deems necessary to carry out effectively its functions and activities under this Act.

Sec. 11. All expenses of the Board shall be allowed and paid upon the presentation of itemized vouchers therefor approved by the Chairman of the Board or by such other member or employee of the Board as the Chairman may designate.

Sec. 12. There are hereby authorized to be appropriated to the Board each fiscal year such sums as may be necessary to carry out its functions and activities under this Act.

Sec. 13. Any provision of the Act of August 11, 1939 (54 Stat. 1409; Public Numbered 391, Seventy-sixth Congress), or of any

other statute, inconsistent with any provision of this Act is superseded, for the purposes of this Act to the extent of such inconsistency.

CONSTANTINE G. GRATSOS,
New York, N.Y., July 16, 1973.

Senator STROM THURMOND,
U.S. Senate,
Washington, D.C.

DEAR SENATOR THURMOND: As Executive Vice President of Victory Carriers, Inc., a New York based carrier, operating ships which utilize the Panama Canal, I would like to share some views with you which may be helpful in the consideration of legislation for the major modernization of the Panama Canal.

The value of having a waterway across the Isthmus has been recognized since the age of discovery. Saving about 8000 nautical miles for intercoastal voyages, its continued efficient operation is a manner of prime importance. Interoceanic commerce is concerned primarily with its continued safe, expeditious and convenient transit.

Ever since the opening in 1914 of the canal thoughtful mariners have often asked why the Atlantic end of the canal has only one group of 3 lifts locks to raise vessels from sea level to the Gatun Lake level, about 85 feet high, while at the Pacific end of the Canal there are two groups of locks separated by a small intermediate level Miraflores Lake, 54 feet above mean sea level.

These experienced navigators generally recognize the differences between the two ends of the canal and have often reported to their operating companies about the double set of difficulties experienced when transiting the Pacific Locks. I have observed these difficulties from personal observation during transit of the canal.

For more than half a century every vessel that has passed through the Pacific Locks has had to make two approaches, make fast twice to towing locomotives, and let go twice as compared to only once for these operations at Gatun. The Pacific arrangement has involved not only loss of transit time but has also added to the danger of marine accidents. Our ship masters have often stressed the marine operational benefits that would accrue from the consolidation of the Pacific Locks in three lifts as close to the seas as possible so as to correspond with the layout at Gatun.

The crucial tests of World War II and marine operational studies incident thereto made in the Panama Canal organization inspired the development by the personnel in that agency of a proposal for the future canal based upon navigational experience, known as the Terminal Lake-Third Locks Plan.

Because of its inherent advantages, which are perfectly obvious, it makes a strong appeal to thoughtful mariners and their principals as the only logical solution of the Canal question when all its main aspects are considered. In this connection, I would emphasize that any plan that does not eliminate the bottle neck locks at Pedro Miguel does not merit the support of the Merchant Marine and from our point of view would be useless.

The problem of increasing the capacity of the Panama Canal has two elements of great interest to the merchant marine; locks and transit capacity.

The usable dimensions of the present locks are 110 feet by 1000 feet by 41 feet. While these dimensions are sufficient for a majority of the vessels that transit, the number of larger ones is steadily increasing to such a point that even Panama Canal pilots have publicly complained about the locks being too small for some of the traffic.

The fact that the transit capacity can be increased by certain improvements is not enough. With the exception of the widened Gaillard cut the Canal is essentially what it was when opened to traffic 59 years ago.

Specifically, many ship masters have complained that the location of the Pedro Miguel Locks squarely across the mouth of Gaillard cut causes problems and loses time. Those who have studied the subject almost uniformly urge the elimination of these locks for an adequate modernization. As previously indicated, any plan that does not provide for the physical removal of these locks cannot solve the marine problems of the Canal. Instead it would perpetuate what experience has shown to have been the fundamental error in the design of the Panama Canal—the separation of the Pacific Locks.

What is needed for the Panama Canal is a two way ship channel through the continental divide with a traffic reservoir in the summit level at each end.

The reservoir at the Atlantic end is supplied by Gatun Lake; the needed basin at the Pacific end would be provided by the elevated Miraflores Lake. And such a canal would be the best canal for the transit of vessels and it would be provided by your bill. The recommended modernization program involves much work: two years for planning and about eight years for construction. Prompt passage of the bill is recommended.

In addition to the increase in capacity and safety provided by the Terminal Lake-Third Locks Plan ships would obtain the added benefit of an increase of the water supply which would reduce the present problems caused by seasonal shortages of water.

Major modernization of the Panama Canal would be expensive, of course. But as time goes on costs would inevitably increase so that it is mandatory to undertake the project at the earliest moment. Panama Canal tolls can be raised within reason, and I believe that any increase in tolls should be allocated toward the improvement of the canal, not only for the benefit of American Shipping but for the commerce of the entire world.

Sincerely,

C. G. GRATSOS.

American Maritime Association

SUITE 510 • 1612 K STREET, N. W. • WASHINGTON, D. C. 20006 • (202) 628-5562

July 30, 1973

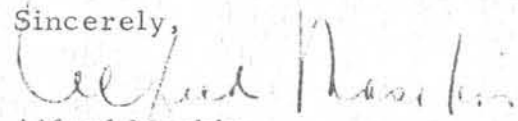
The Honorable Daniel J. Flood
108 Cannon House Building
Washington, D.C. 20515

Dear Congressman Flood:

I have your letter of July 25th regarding my recent appearance before the Panama Canal Subcommittee of the House Merchant Marine Committee.

I'm of course extremely gratified by your comments regarding my testimony on the need to modernize and expand the existing canal, and I certainly do hope that the views I expressed will be of help in generating support for this project.

Sincerely,


Alfred Maskin
Executive Director

*Shows that Third-Locks Plan
can be done under 1903 treaty.*



DEPARTMENT OF STATE

Washington, D.C. 20520

July 10, 1973

Honorable Dante B. Fascell
Chairman, Subcommittee on
Inter-American Affairs
Committee on Foreign Affairs
House of Representatives

Dear Mr. Chairman:

I am glad to reply to your letter of June 15, 1973 enclosing a letter from Congressman Daniel J. Flood about United States rights to build additional locks for the Panama Canal.

The Department of State is aware that the United States interprets the Treaty of 1903 as granting the United States by implication the right to expand the Panama Canal within the boundaries of the Canal Zone. This right was asserted in 1939 when the U.S. initiated the third locks project referred to by Congressman Flood, which was accepted by Panama at that time.

The current United States negotiating position is that the United States is prepared to agree to the abrogation of the Treaty of 1903, as desired by Panama, provided that Panama grants the United States the rights that are essential to continued United States control and defense of the Panama Canal for a long period, continuation of the existing right to expand the present canal, and a new right to build a sea level canal.

Inasmuch as the existing third locks option is derived from the provisions of the Convention of 1903, such a right would not survive its abrogation. For this reason, in order to preserve the right to construct a third set of locks it continues to be one of our negotiating objectives to include a third locks option, as well as other important rights now enjoyed under the Convention of 1903 and its amendments, in a new canal treaty.

- 2 -

Please continue to call on me whenever you believe I might be of assistance.

Sincerely yours,

Marshall Wright
Assistant Secretary
for Congressional Relations

GIST

—A quick reference aid on U.S. foreign relations
primarily for Government use. Not intended
as a comprehensive U.S. policy statement.



BUREAU OF PUBLIC AFFAIRS

DEPARTMENT OF STATE

PANAMA CANAL: PROGRESS OF NEW TREATY NEGOTIATIONS

No. 68 (rev. 1)

1. Background: For 59 years since the Panama Canal became operative it has proven a boon to the world and to the Panamanian nation. It serves as many as 15,000 vessels a year. Nearly 70% of this traffic either originates or terminates in US ports. In FY '72 more than 111 million tons of cargo transited the Canal, producing \$101.5 million in tolls. The Canal has turned Panama into a vital center for international finance, with 42 foreign banks in operation holding deposits of more than \$1 billion. US private investment in the country totals \$1.2 billion. It is one of the world's most strategic waterways, long of great significance to US national security.

US stewardship of this vital waterway was granted under the treaty of 1903 when Panama gained its independence from Colombia. Since 1914 the Canal tolls have never been increased and there has been no attempt on the part of the US to recover the original construction costs (\$387 million). Total US investment in construction and maintenance of the Canal now stands at \$2 billion. Its operating profits are used for improvements to meet the growing needs of world shipping.

2. Importance to Panama: Canal operations have transformed Panama from a poverty-stricken country in 1903 into a nation with a billion-dollar economy and a per capita income of \$739, the highest in Central America, and fourth in Latin America as a whole (after Argentina, Venezuela, and Uruguay). Further,
 - nearly one-third of its GNP in 1972 (\$1.2 billion) was attributable to the Canal and its military bases;
 - about 60% of its total foreign exchange earnings directly or indirectly are derived from the annual US annuity of \$2 million for the Canal and US purchases in the Zone and payments of wages to Panamanians (about \$167 million in 1971);
 - 15,000 out of 20,000 Canal employees are Panamanian.
3. Negotiations: The 1903 treaty still governs the basic relationship between the US and Panama concerning the Canal. However, that relationship was significantly revised and reaffirmed in the treaties of 1936 and 1955. On both occasions the US relinquished important Canal rights and provided important new benefits for Panama. Since 1964 the two countries have agreed that a comprehensive modernization of their relationship is essential. Between 1964 and 1967 three draft treaties were negotiated but subsequently rejected by the Torrijos government which assumed power in 1968. In June 1971 at the request of that government discussions for a new Canal treaty were reopened. In December 1971 a comprehensive

PA/MS JULY 1973

Editor: Miss Fahey Black
: ext. 20736
For copies: ext. 28872

new US treaty offer was presented to the Government of Panama.

4. US position: The US and Panama resumed formal negotiations in December 1972. The US position is that:

- The Canal should be available to the world's commercial vessels on an equal basis at reasonable cost;
- The US should have the right to provide additional Canal capacity, at its own expense, by construction of an additional lane of locks or a sea-level canal across Panama.
- The US should continue to operate and defend the Canal for an extended, but specified, period of time, with provision for further extension in connection with expansion of the Canal's capacity.

The US agrees that any new Canal treaty should be of fixed duration, rejecting the concept of perpetuity, the feature most objectionable to Panama. The US also agrees that:

- A substantial part of the Canal Zone territory should be returned to Panama with arrangements for the US to use other areas required for the operation and defense of the Canal. These other areas would be integrated into the legal, economic, social, and cultural life of Panama, on an agreed-upon timetable.
- Panama should exercise its jurisdiction in the Canal area pursuant to a mutually agreed timetable.
- Panama should receive substantially increased annual payments for the use of its territory relating to the Canal. The US, which is presently paying \$2 million rental annually, has proposed that this be replaced by a royalty on tonnage that would yield about \$25 million per year at current traffic rates, and would increase as traffic increases.

4. Panama has agreed that a modern treaty is needed, and has proposed:

- That the new treaty last only a fraction of the period desired by the US, while by-passing suggestions about extending the treaty when and if the Canal capacity is expanded.
- A far more rapid transition of jurisdiction than the US believes is feasible, expressing opposition to US retention of some of the rights the US believes is necessary to execute its responsibilities.
- Full dominion over almost all the Zone land, opposing the granting of certain rights concerning this land to the US that we consider essential.
- That it immediately have primary responsibility for protection of the Canal from local threats of all types and the authority to determine when US forces should assist in this protection.
- US forces and bases in Panama be reduced, and defense from external threats be accomplished by multilateral forces outside Panama.

RULES OF PROCEDURE OF COMMITTEE ON THE DISTRICT OF COLUMBIA

Mr. EAGLETON. Mr. President, in accordance with section 133B of the Legislative Reorganization Act of 1946, as amended, which requires the rules of each committee to be published in the CONGRESSIONAL RECORD no later than March 1 of each year, I ask unanimous consent that the rules of the Committee on the District of Columbia be printed in the RECORD.

There being no objection, the rules were ordered to be printed in the RECORD, as follows:

RULES AND PROCEDURES OF THE SENATE COMMITTEE ON THE DISTRICT OF COLUMBIA

Rule 1. Unless the Senate is meeting at the time, or it is otherwise ordered, and notice given, the Committee shall meet regularly at 10:30 a.m. on the second Friday of each month. The Chairman may, upon proper notice, call such additional meetings as he may deem necessary, or at such times as a quorum of the Committee may request in writing, with adequate advance notice provided to all members of the Committee. Subcommittee meetings shall not be held when the full Committee is meeting.

Rule 2. The rules of the Senate and the provisions of the Legislative Reorganization Act of 1970, insofar as they are applicable, shall govern the Committee and its Subcommittees. The rules of the Committee shall be the rules of any Subcommittee of the Committee.

Rule 3. The Chairman of the Committee, or if the Chairman is not present, the ranking majority member present, shall preside at all meetings. A majority of the members of the Committee shall constitute a quorum of the Committee. However, the Committee may authorize a quorum of one Senator for the purpose of taking testimony.

Rule 4. Unless otherwise determined by a majority of the Committee, written proxies may be used for all Committee business, except that proxies shall not be permitted for the purpose of obtaining a quorum to do business. Committee business may be conducted by a written poll of the Committee, unless a member requests that a meeting of the Committee be held on the matter.

Rule 5. There shall be kept a complete record of all Committee action. Such records shall contain the vote cast by each member of the Committee on any question on which a yeas and nays vote is demanded. The record of each yeas and nays vote shall be released by the Committee either at the end of the executive session on a bill or upon the filing of the report on that bill as a majority of the Committee shall determine. The clerk of the Committee, or his assistant, shall act as recording secretary on all proceedings before the Committee.

Rule 6. All hearings conducted by the Committee or its Subcommittee shall be open to the public, except where the Committee or the Subcommittee, as the case may be, by a majority vote, orders an executive session.

Rule 7. The Committee shall, so far as practicable, require all witnesses heard before it to file written statements of their proposed testimony at least 72 hours before a hearing and to limit their oral presentation to brief summaries of their arguments. The presiding officer at any hearing is authorized to limit the time of each witness appearing before the Committee.

Rule 8. Should a Subcommittee fail to report back to the full Committee on any measure within a reasonable time, the Chairman may withdraw the measure from such Subcommittee and report that fact to the full Committee for further disposition.

Rule 9. Attendance at executive sessions of the Committee shall be limited to members of the Committee and the Committee staff. Other persons whose presence is requested or consented to by the Committee may be admitted to such sessions.

Rule 10. The Chairman of the Committee shall be empowered to adjourn any meeting of the Committee if a quorum is not present within 15 minutes of the time scheduled for such meeting.

Rule 11. Subpoenas for attendance of witnesses and for the production of memoranda, documents, and records may be issued by the Chairman or by any other member designated by him. The subpoena shall briefly state the matter to which the witness is expected to testify or the documents to be produced. All witnesses subpoenaed before the Committee who are to testify as to matters of fact shall be sworn by the Chairman or another member.

Rule 12. Accurate stenographic records shall be kept of the testimony of all witnesses in executive and public hearings. The record of a witness' own testimony, whether in public or executive session, shall be made available for inspection by witnesses or by their counsel under Committee supervision a copy of any testimony given in public session or that part of the testimony given by a witness in executive session and subsequently quoted or made part of the record of a public session shall be made available to any witness at his expense, if he so requests. Witnesses not testifying under oath may be given a transcript of their testimony for the purpose of making minor grammatical corrections and editing, but not for the purpose of changing the substance of the testimony. Any question arising with respect to such editing shall be decided by the Chairman.

Rule 13. Subject to statutory requirements imposed on the Committee with respect to procedure, the rules of the Committee may be changed, modified, amended, or suspended at any time, provided, however, that not less than a quorum of the Committee so determines in a regular meeting with due notice, or at a meeting specifically called for that purpose.

GIVEAWAY OF THE PANAMA CANAL

Mr. THURMOND. Mr. President, the February 1974 edition of the Phyllis Schlafly report was recently brought to my attention. This report is a very enlightening account of the history of the Panama Canal, and the recent events leading to the decision by the State Department to relinquish U.S. sovereignty over that very crucial area. Mrs. Schlafly very convincingly points out how vital it is from a military and economic standpoint that the United States maintain sovereignty over the Panama Canal.

Mr. President, I fully ascribe to the views expressed by this very fine American, and I ask unanimous consent that her report be printed in the RECORD.

There being no objection, the article was ordered to be printed in the RECORD, as follows:

[From the Phyllis Schlafly Report, February, 1974]

GIVEAWAY OF THE PANAMA CANAL

(NOTE.—Phyllis Schlafly is the co-author of three books on nuclear strategy, "The Gravediggers" (1964), "Strike From Space" (1965), and "The Betrayers" (1968), which accurately predicted that the Soviet Union had a program to overtake and surpass the U.S. in nuclear weapons. She has testified on national security before the Senate Foreign Relations and Armed Services Committees.

She is now a commentator on Spectrum for CBS radio and television. Her 1972 series of interviews with military and nuclear experts was aired on 70 television and 50 radio stations. Her first book was "A Choice Not an Echo" (1964), and her latest book is a biography entitled "Mindszenty the Man" (1972). An honors graduate of Washington University and member of Phi Beta Kappa, she has a Master's Degree from Harvard University.)

If our State Department succeeds in giving away the Panama Canal, it will be the biggest giveaway in the history of foreign handouts. It sounds incredible that any American official would be seriously contemplating such a step, but certain State Department diplomats and the United Nations have been conniving toward this objective for years. Of course, they don't call it giving away the Panama Canal—they "cover" their purpose in diplomatic language. They say they are "renegotiating the Treaty of 1903." But it amounts to the same thing.

The U.S. Canal Zone is just as much American territory as the Louisiana Purchase of 1803, the Gadsden purchase of 1853, and the Alaska purchase of 1867. Incidentally, we have paid more for the U.S. Canal Zone than for all those other huge territories combined, and there is no more reason to give it away under threat of political blackmail than there is to give away Louisiana, Arizona or Alaska.

The United States acquired sovereign control "in perpetuity" over the U.S. Canal Zone by means of the 1903 Treaty with Panama, which is still in effect, and which cannot legally be abrogated by the State Department, by the UN, or by Panama. We do not rent or lease the Canal Zone; we bought it outright and immediately paid the full purchase price of \$10 million. The words "rent" or "lease" are not used in the Treaty with Panama; but the word "grants," in variant forms, is used 19 times in the Treaty. The United States accepted this grant under Congressional authority.

In addition to obtaining all the rights, power and authority of sovereignty, the United States bought the land in the Canal Zone from individual property owners, which makes us the owner of all the land, as well as the sovereign. We not only paid the legal owners of the land, but also those who were living there only under so-called squatter's rights with only shadowy claims.

U.S. INVESTMENT IN PANAMA

The United States has borne every expense of building and maintaining the Panama Canal. By 1973, our net investment in the Canal and Canal Zone totaled almost \$5.7 billion. We have never even amortized the original cost of constructing the Canal. We have operated the Canal as an interoceanic public utility available to the maritime nations of the world at tolls which are just and equitable, and probably lower than they ought to be.

The annuity of \$430,000 which the United States has been paying to Panama since 1939 is compensation for the loss of the annual franchise payment of the Panama Railroad resulting from the grant of exclusive sovereignty to the United States. The remaining \$1.5 million we have been paying Panama every year since 1955 comes out of State Department appropriations to promote friendly relations with Panama. In no sense are these combined payments, totaling annually almost \$2 million, to be regarded as rental payments for the use of the Canal or Canal Zone.

NO GUILTY CONSCIENCE

Americans should not have any guilty conscience about our treatment of Panama. The United States has created all the wealth that exists in Panama. American money and brains and labor have been responsible for building and operating the Canal.

Panama's complaints against the United States have no foundation, but have been invented and exploited by greedy Panamanian politicians. Before we built the Canal, Panama was pest-ridden and mosquito-infested. The American people went to work in this menacing and inhospitable environment and, in eleven years, wrought a miracle in the jungle. They created a disease-free ocean highway which remains to this day one of the wonders of the world. The Canal today supplies Panama with one-third of its national income, giving it the highest standard of living in Central America and the fourth highest in Latin America.

Ambassador Ellis O. Briggs summed up very well what Panama owes us: "Few enterprises as creditable as the Panama Canal are inscribed in the pages of history. The United States has maintained the Canal to the very great profit of the Republic of Panama, the independence of which was guaranteed in the original Treaty. Had it not been for the United States, the inhabitants of Panama might still be crossing the continental divide on muleback, slapping mosquitoes, and poling their dugout canoes down the muddy Chagres River—as they did for three centuries under Spain, and for many years thereafter under Colombia."

LESSON FROM SUEZ

We should learn a lesson from the history of the Suez Canal. Since Egypt seized it in 1956, it has been totally subject to the whims of the Egyptian government. For us to relinquish authority over our Panama Canal would put us at the mercy of Panama, which has had 13 changes of government since World War II, five of them violent, and where the radicals riot every time they want a new concession.

In the spring of 1973, Congressman Philip Crane appeared on the television program *The Advocates*. A former professor of Latin American history, Dr. Crane gave his audience a lesson in Panamanian history which shows why we would be very foolish, indeed, to deliver sovereignty over the U.S. Canal Zone into Panamanian hands:

"If we gave up the Canal Zone, we would be entrusting the security of the Canal to one of the most unstable countries in the Western Hemisphere. Consider the political upheaval just since World War II.

"Enrique Jimenez became President under a new constitution. He served until the elections of 1948 which were declared a fraud, and was succeeded by Daniel Chanas. Police Chief Jose Remon forced Chanas to resign and Roberto Chiari was declared President.

"The Supreme Court voided Chiari's appointment, and Arnulfo Arias took office. Police Chief Remon pressured Arias out of office and Alcibiades Arosemena was put in. He served about a year until Remon himself was elected President in 1952. Remon was assassinated in 1955 and replaced by Jose Remon Guizado who was arrested 12 days later as a suspect in the assassination. Ricardo Arias served out his term. Ernesto de la Guardia was elected in 1956 and became the first President since the war to serve a full four-year term.

"Roberto Chiari served until 1964 when Marco Robles took office. Robles was impeached but kept in power by the national guard until the inauguration, again, of Arnulfo Arias in October 1968. After just eleven days, Arias was overthrown by the guard and Colonel Omar Torrijos, the present dictator, seized control and abolished the constitution."

If we supinely submitted to demands to turn the operations and defense of the Panama Canal over to dictator Torrijos, he could charge discriminatory rates or close it to Free World shipping at will, just as Nasser closed the Suez Canal.

Incidentally, the response from viewers of *The Advocates* program was overwhelming. More than 12,000 persons cast ballots, and

88 percent said the United States should not give up the U.S. Canal Zone.

APPEASEMENT DOESN'T PAY

Appeasement of the Panama radicals has always tremendously increased our problems. In 1936 the Roosevelt Administration gave away without compensation many of our rights in Panama. In World War II, it cost us a high price to get back the defense bases we vitally needed. For the past 35 years, the more concessions the United States has given Panama, the more the anti-Americans and pro-Communists have increased their demands, often punctuated with violence and riots. In 1946, Alger Hiss sent to the United Nations a "report" in which he referred to the U.S. Canal Zone as "occupied territory."

Part of our problem today is that Secretary of State Christian Herter in 1960 persuaded President Eisenhower to permit the Panamanian flag to be flown alongside the U.S. flag in the Canal Zone in plain violation of the Treaty of 1903 in which Panama agreed to forego forever the right to exercise any act of sovereignty within the Zone.

THE JOHNSON TREATIES

In 1967, the Lyndon Johnson Administration secretly drafted three treaties with Panama which would have constituted a giveaway of the Panama Canal, if it had succeeded. Those three treaties, if ratified, would have given U.S. sovereignty over the U.S. Canal Zone to Panama, would have let Panama share with the United States in the running of the Canal Zone, would have given Panama legal control over any new canal which might be built in Panama, and would have sharply increased our annual payments to Panama from \$1.9 million to about \$22 million a year.

The Johnson Administration had planned to keep the text of the treaties secret until after they were signed, and then rush ratification through the Senate on the usual pretext that delicate international relations would be upset if action were not prompt. This plan was foiled when the Chicago Tribune exclusively secured a copy of the Panama Canal Treaty and published it in full on July 15, 1967—one of the great news scoops of the 20th century. Copies of the Chicago Tribune were supplied to all Congressmen, who were unable to secure the text through the State Department.

Congressmen from both sides of the aisle united in their efforts to maintain and protect U.S. sovereign rights and jurisdiction over the U.S. Canal Zone. Congressman Daniel J. Flood warned: "The Panama Canal, as the key strategic point in the Western Hemisphere and the greatest single symbol of United States prestige, is marked for a takeover by Red revolutionary force." Congresswoman Leonor K. Sullivan, then Chairman of the Panama Canal Subcommittee of the House Merchant Marine Committee, assailed the new Panama Canal treaty as a "giveaway" and warned that it "only opens the way to surrendering the Canal to the Republic of Panama."

The Johnson Administration treaties were quashed by the uproar in Congress. But that didn't dampen the energetic efforts of the powerful forces in our country which are obsessed with giving away American wealth and assets to foreign countries. These forces have given away our money, our industries, our jobs, our wheat, and our technology. And they have persisted in their everlasting enthusiasm to give away the Panama Canal.

STATE DEPARTMENT CONNIVANCE

Certain State Department officials, acting without authority and in violation of the 1903 Treaty, have attempted to compromise exclusive U.S. sovereignty in the Canal Zone. Robert Hurwitch, deputy assistant secretary for Inter-American Affairs in the State Department, testified before the House Committee on Inter-American Affairs that the

United States should abandon its colonial enclave in the Canal Zone. The U.S. Ambassador to Panama, Robert Sayre, speaking to the Rotary Club in Panama on February 27, 1973, erroneously declared that the United States recognizes Panama's sovereignty over the Canal Zone.

Then the United Nations got into the act with a resolution calling on the United States to conclude a new treaty with Panama giving the U.S. Canal Zone to Panama; whereupon the U.S. Ambassador to the United Nations, John Scall, gave a public pledge that his Government would "conclude a new treaty promptly" supporting "Panama's just aspirations" and abandoning the "perpetuity clause." On the showdown vote, 13 members of the Security Council voted against us, and Britain abstained. The lone "No" vote was cast by the United States and constituted our third veto in the history of the UN.

In mid-March 1973, the UN Security Council met in Panama. There was no logical reason for the Security Council to meet there, but it did. The United States should have vetoed the suggestion, but we didn't. The Security Council was devoted to a series of speeches bitterly and cleverly denouncing the United States as brutally suppressing Panama by the last vestiges of colonialism. Castro's representative led the diatribe, followed by other Latin American delegates. Torrijos made a militant speech, pressing Panama's claim for sovereignty over the Canal Zone. U.S. Ambassador John A. Scall made an unimpressive, defensive reply.

THE NEW BUNKER TREATY

January 1974 was the Tenth Anniversary of the 1964 riots at the Panama Canal in which three American soldiers were killed. One might have thought that a good way to observe the anniversary would have been to lay a wreath on the graves of those soldiers killed in the line of duty. But that was not the way the State Department looked upon the event. Our State Department thinks that a good way to observe such an anniversary is to give more concessions to the rioters. That is exactly what happened when roving Ambassador Ellsworth Bunker agreed on January 9, 1974 to eventually end American jurisdiction over the Panama Canal. The Bunker Agreement was described as a major step toward this objective.

Panamanian sources said that the points Ambassador Bunker agreed on in Panama included a time limit for the United States to cede the Canal to Panama, progressive Panamanian jurisdiction over it, neutrality of the Canal and the Canal Zone, the flying of the Panamanian flag there, and Panamanian participation in the administration, operation, and defense of the Canal.

Congressman Daniel Flood, the leading Congressional authority on the Panama Canal, immediately labeled this Bunker agreement as "merely another incident in a program to surrender the Canal Zone that has not been authorized by the Congress, and which constitutes one of the most disgraceful diplomatic episodes in the history of the United States."

TORRIJOS THREATS

The day Ellsworth Bunker arrived in Panama, the present dictator, Omar Torrijos, hurled this insulting language: "If negotiations fail, we have no other recourse but to fight. . . . This is the last opportunity. This will be the last peaceful negotiations."

If we fall this time, we are not responsible for the consequences. The people are losing their patience and the arrival of Bunker is their last hope. It depends on him whether or not the time bomb that is the Canal Zone explodes."

Ambassador Bunker should have taken the next plane back to Washington. Instead, he stayed and caved in to the threats of the Panamanian dictator—in spite of the fact that the entire history of our relationship

with Panama proves that, when we give in to their blackmail, extortion and violence, it only encourages more of the same.

Senator Ernest Hollings expressed the opinion of many Senators when he said: "I am tired of seeing the United States negotiate at gunpoint. As soon as a demonstration or a riot occurs in Panama, we rush in with another concession, another giveaway. What we fail to see is that each concession only leads to the other side upping the ante still more. . . . The demagogues and firebrands in Panama will keep fueling the issue for their own partisan ends until the last ounce of America's presence is removed."

Torrijos, however, is escalating his anti-American demands. He has been flying all over South America to drum up support for his campaign to take sovereignty over the U.S. Canal Zone. He already appears to have Argentina's Peron on his side, and he is now making a play for the support of the revolutionary regime in Peru.

"PART OF THE GLOBAL STRUGGLE"

Congressman Daniel Flood sharply admonished the Administration against compromising U.S. ownership of the Canal Zone, stressing that the Soviet Union is aggressively on the move throughout the world to entrench its might and power, and that wresting possession of the Panama Canal is "part of the global struggle for domination of strategic areas and waterways."

"In the Middle East," Congressman Flood pointed out, "Soviet nuclear warheads were sent to Egypt a month before the outbreak of the October war. In Cuba, the satellite Castro regime has mounted heavy artillery on the Sierra Madre Mountain ranges overlooking our naval station at Guantanamo. Also, Moscow has provided Castro with powerful patrol boats armed with the deadly Styx surface-to-surface missile."

"In Vietnam, the North Vietnamese and Viet Cong launch Soviet-supported air and ground attacks to seize former U.S. airbases. In the eastern Mediterranean, numerous modern Soviet warships stand ready to attack the Sixth U.S. Fleet. Panama is one of the crucial strategic crossroads of the world. The Isthmus has always been a target for predatory attacks, and that is why it will always require the presence of the United States if it is to remain free."

Congressman Flood warned that, "above all, it is essential to understand the real character of Omar Torrijos, his close ties with Moscow puppet Fidel Castro, and his secret machinations with other dictators, among them Libya's fanatical Colonel Muammar Qaddafi, the patron saint of the murderous Palestinian terrorists and ferocious enemy of the U.S. and Israel. These are not mere happenstances. They are the consequences of Communist infiltration of the Panama government by extremists who counted on the complicity of Torrijos."

Congressman Flood's warning that the Panama Canal is a target of the global Soviet strategy was corroborated by Admiral John S. McCain, former commander-in-chief of all U.S. forces in the Pacific for four years prior to his recent retirement. He pointed out that the U.S.S.R. is consistently following a plan to control all vital sea lanes, including the Suez Canal, the Panama Canal, and the Straits of Malacca.

Panama's impudent demands to acquire U.S. property are developing into a major headache for Secretary of State Kissinger when he meets Latin American foreign ministers in Mexico in February to launch what he has called a "near relationship" with the Western Hemisphere nations. Panama is already one of the eight main points on the agenda, a concession we agreed to in November 1973 at a preparatory meeting of the Latin American foreign ministers in Colombia.

REMODELING THE CANAL

Congressman Flood, Senator Strom Thurmond, Congressman Philip Crane, and most experts on Panama in Congress believe that the time has come for extensive remodeling of the Canal. Under the Flood-Thurmond-Crane bill, the capacity of the Panama Canal would be more than doubled in terms of annual ship transits—from 15,000 to 30,000. This is considered sufficient to meet traffic demands for at least the next 50 years. The estimated cost of the project is less than one-fourth the cost of a new sea-level canal, which they deem needlessly expensive, diplomatically hazardous, ecologically dangerous, and liable to the control of foreign governments.

The U.S. Canal Zone was purchased under Congressional authority with funds appropriated by Congress, under the Treaty of 1903 ratified by the Senate, and is the property of the people of the United States. The Encyclopedia Britannica properly defines the U.S. Canal Zone as "the constitutionality acquired territorial possession of the United States granted in perpetuity by the Republic of Panama for the construction of the Canal and for its perpetual maintenance, operation, sanitation and protection."

The Congress should rebuke the State Department and the United Nations for trying to undermine one of our most important treaties. We should not recognize any claim by the United Nations to intervene in what is an exclusively domestic problem of the United States. We should not participate in any meetings or negotiations which call into question the clearly defined treaty rights of U.S. sovereignty.

AS VITAL AS CHESAPEAKE BAY

U.S. ownership and sovereignty over the U.S. Canal Zone are just as vital to us as the protection of the Chesapeake Bay. The Panama Canal is an irreplaceable element in our military defense and an indispensable lifeline to our economic security. Sovereignty over the U.S. Canal Zone should not be negotiable. We should ignore the political blackmail of the Panamanian politicians and the hypocritical howls from the United Nations.

If the Nixon Administration presses for finalization of the ill-conceived and secretly-negotiated treaty worked out by Ellsworth Bunker and Omar Torrijos, it will be heading for another confrontation with Congress. There are few issues on which the Congress has shown such bipartisan unanimity as the issue of the Panama Canal. The large majority of our Congressmen know that the U.S. Canal Zone is American territory, and they intend to keep it that way. It is more important than it has ever been to our military and economic security.

STUDY ON USE OF HERBICIDES IN SOUTH VIETNAM

Mr. McINTYRE. Mr. President, the Department of Defense, by letter dated February 27, 1974, has transmitted part A, the summary and conclusions of the final report prepared by the National Academy of Sciences Committee on the Effects of Herbicides in Vietnam, in accordance with the requirements of section 506(c), Public Law 91-441.

The Department also has included its comments on the report as well as copies of letters addressed to the various appropriate agencies to provide an orderly transition of the recommended follow-on studies noted in the report.

These actions also reflect the understanding reached between the Armed

Services Committee and the Director of Defense Research and Engineering as presented in a letter from the Committee to the Secretary of Defense dated May 15, 1973.

I ask unanimous consent that copies of these various documents be printed in the Record. This will not include the complete part A of the report which is too voluminous to print in the Record, but only the abbreviated summary and conclusions. Copies of the complete part A can be obtained either at the Department of Defense or at the National Academy of Science.

Additional information on previous actions by the Armed Services Committee appear on pages 105 through 108 of the committee report No. 93-385 of the fiscal year 1974 military procurement authorization bill.

There being no objection, the material was ordered to be printed in the Record, as follows:

THE SECRETARY OF DEFENSE,

Washington, D.C., February 27, 1974.

HON. JOHN C. STENNIS,
Chairman, Committee on Armed Services,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: Enclosed is a copy of Part A, Summary and Conclusions of the Final Report prepared by the National Academy of Science Committee on the Effects of Herbicides in Vietnam, which is being transmitted today to the President of the Senate and to the Speaker of the House of Representatives. Part B, the Supplementary Report, which provides the reference material and background data from which the conclusions of the final summary report are drawn, will be transmitted to your Committee and the Congress by 15 April 1974. This supplementary report which is a careful documentation of a massive amount of detailed data, is expected to be received for review by the Department of Defense by 14 March 1974.

In accordance with the request contained in your letter of May 15, 1973, the Department of Defense is ready to provide an orderly transition of the recommended follow-on studies noted in the report to the Federal Agencies. Copies of the letters we are currently forwarding to the appropriate agencies are included as Enclosure 2.

The Department of Defense would like to commend the members of the Committee on the effects of Herbicides in Vietnam on their dedication and the thoroughness of their efforts. I am sure that this study will add considerably to the body of scientific knowledge regarding all uses of chemical herbicides. We, therefore, encourage that the total report be disseminated promptly to the public. Specific efforts toward this goal are mentioned in Enclosure 3, Department of Defense comments.

The recommendations of the Committee on the effects of Herbicides in Vietnam are detailed on pages 8-14 through 8-16 of Enclosure 1. To implement these recommendations, the Department of Defense plans the following actions:

a) Through the attached letters we have requested other components of the Executive Branch to consider specific recommendations.

b) We will sponsor, with the National Academy of Sciences, an interagency meeting to address the individual recommendations and assist in the development of an action plan for implementation by the responsible Agencies or Departments.

c) The Department of Defense has taken action on the two recommendations where

we feel we have prime responsibility. This is noted in Enclosure 3, the Department of Defense comments.

d) The Department of Defense will continue to provide technical assistance as requested and required by the other agencies during this transition phase.

I feel that with the submission of this report and the follow-on activities listed above, the Department of Defense has discharged its responsibilities pursuant to the law which directed this effort.

Sincerely,

W. P. CLEMENTS, Jr.,
Deputy.

HON. HENRY A. KISSINGER,
Secretary of State,
Department of State,
Washington, D.C.

DEAR MR. SECRETARY: For the past three years this Department has supported a study by the National Academy of Sciences to evaluate the ecological and physiological effects of the use of herbicides in South Vietnam. This study was directed by the Congress as a provision of Public Law 91-441, the 1971 Department of Defense Appropriations Authorization Act.

Enclosed is a copy of Part A: the final summary report which is being transmitted to the Congress in fulfillment of this requirement. Part B, the Supplementary Report, which provides the reference material and background data from which the conclusions of the final summary report are drawn, will be transmitted about 15 April 1974.

On 15 May 1973 the Chairman of the Senate Committee on Armed Services forwarded to your attention a copy of a letter, Enclosure 2, directing the Secretary of Defense to insure that any recommendations arising from the aforementioned study would be implemented. We had no knowledge until receipt of the report what these recommendations might encompass, therefore, we have only made informal contacts with your organization.

We would appreciate your consideration of recommendation numbers 2, 3, and 15 and any others where you believe your Department may be of assistance. Informal contact has been made in the past through interagency meetings to discuss the problem of dioxin. Your department was represented by Mr. William Salmon. We wish to formalize this action, however, and would appreciate your advising Dr. Malcolm R. Currie, the Director of Defense Research and Engineering, of the principal contact in your area to complete the transition of these recommendations into programs of your organization. A joint DoD-NAS meeting will be held in the near future to address the recommendations and develop an action plan.

Sincerely,

W. P. CLEMENTS, Jr.,
Deputy.

FEBRUARY 27, 1974.

HON. RUSSELL TRAIN,
Environmental Protection Agency,
Washington, D.C.

DEAR MR. TRAIN: For the past three years this Department has supported a study by the National Academy of Sciences to evaluate the ecological and physiological effects of the use of herbicides in South Vietnam. This study was directed by the Congress as a provision of Public Law 91-441, the 1971 Department of Defense Appropriation Authorization Act.

Enclosed is a copy of Part A: the final summary report which is being transmitted to the Congress in fulfillment of this requirement. Part B, the Supplementary Report, which provides the reference material

and background data from which the conclusions of the final summary report are drawn, will be transmitted about 15 April 1974.

On 15 May 1973 the Chairman of the Committee on Armed Services forwarded to your attention a copy of a letter, Enclosure 2, directing the Secretary of Defense to insure that any recommendations arising from the aforementioned study would be implemented. We had no knowledge until receipt of the report what these recommendations might encompass, therefore, we have made only informal contacts with your organization. A response to this letter was provided to Senator Stennis by David D. Dominick on 11 June 1973.

The recommendations of the National Academy Committee summary report are extracted in Enclosure 3. We would appreciate your consideration of recommendation numbers 4 and 6 and any others where you believe your Agency may be of assistance. Informal contact has been made in the past through interagency meetings to discuss the problem of dioxin. Your agency was represented by Drs. Carroll, Collier, William Upholt, and Gunter Zweig. We wish to formalize this action, however, and would appreciate your advising Dr. Malcolm R. Currie, the Director of Defense Research and Engineering, of the principal contact in your area to complete the transition of these recommendations into the programs of your organization. A joint DOD-NAS meeting will be held in the near future to address the recommendations and develop an action plan.

Sincerely,

W. P. CLEMENTS, Jr.,
Deputy.

FEBRUARY 27, 1974.

HON. DANIEL PARKER,
Administrator, Agency for International Development,
Washington, D.C.

DEAR MR. PARKER: For the past three years this Department has supported a study by the National Academy of Sciences to evaluate the ecological and physiological effects of the use of herbicides in South Vietnam. This study was directed by the Congress as a provision of Public Law 91-441, the 1971 Department of Defense Appropriation Authorization Act.

Enclosed is a copy of Part A: the final summary report which is being transmitted to the Congress in fulfillment of this requirement. Part B, the Supplementary Report, which provides the reference material and background data from which the conclusions of the final summary report are drawn, will be transmitted about 15 April 1974.

On 15 May 1973 the Chairman of the Senate Committee on Armed Services forwarded to your attention a copy of a letter, Enclosure 2, directing the Secretary of Defense to insure that any recommendations arising from the aforementioned study would be implemented. We had no knowledge until receipt of the report what these recommendations might encompass, therefore, we have made only informal contacts with your organization.

We would appreciate your consideration of recommendation numbers 1, 2, 3, 5, 7, 8, 9, 10, 11, 14 and 15 and any others where you believe your Agency may be of assistance. Informal contact has been made in the past through interagency meetings to discuss the problem of dioxin. Your Agency was represented by Messrs. James Cudny, Alan Jacobs, and Bill Long. We wish to formalize this action, however, and would appreciate your advising Dr. Malcolm R. Currie, the Director of Defense Research and Engineering, of the principal contact in your area to complete the transition of these recommendations into the programs of your organization. A joint DOD-

NAS meeting will be held in the near future to address the recommendations and develop an action plan.

Sincerely,

W. P. CLEMENTS, Jr.,
Deputy.

FEBRUARY 27, 1974.

HON. ROGERS C. MORTON,
Secretary of the Interior,
Department of the Interior,
Washington, D.C.

DEAR MR. SECRETARY: For the past three years this Department has supported a study by the National Academy of Sciences to evaluate the ecological and physiological effects of the use of herbicides in South Vietnam. This study was directed by the Congress as a provision of Public Law 91-441, the 1971 Department of Defense Appropriations Authorization Act.

Enclosed is a copy of Part A: the final summary report which is being transmitted to the Congress in fulfillment of this requirement. Part B, the Supplementary Report, which provides the reference material and background data from which the conclusions of the final summary report are drawn, will be transmitted about 15 April 1974.

On 15 May 1973 the Chairman of the Senate Committee on Armed Services forwarded to your attention a copy of a letter, Enclosure 2, directing the Secretary of Defense to insure that any recommendations arising from the aforementioned study would be implemented. We had no knowledge until receipt of the report what these recommendations might encompass, therefore, we have only made informal contacts with your organization.

The recommendations of the National Academy Committee summary report are extracted in Enclosure 3. We would appreciate your consideration of recommendation numbers 9, 10, 11, and 14 and any others where you believe your Department may be of assistance. We wish to formalize this action and would appreciate your advising Dr. Malcolm R. Currie, the Director of Defense Research and Engineering, of the principal contact in your area to complete the transition of these recommendations into the programs of your organization. A joint DOD-NAS meeting will be held in the near future to address the recommendations and develop an action plan.

Sincerely,

W. P. CLEMENTS, Jr.,
Deputy.

FEBRUARY 27, 1974.

HON. GUYFORD STEVER,
National Science Foundation,
Washington, D.C.

DEAR DR. STEVER: For the past three years this Department has supported a study by the National Academy of Sciences to evaluate the ecological and physiological effects of the use of herbicides in South Vietnam. This study was directed by the Congress as a provision of Public Law 91-441, the 1971 Department of Defense Appropriation Authorization Act.

Enclosed is a copy of Part A: the final summary report which is being transmitted to the Congress in fulfillment of this requirement. Part B, the Supplementary Report, which provides the reference material and background data from which the conclusions of the final summary report are drawn, will be transmitted about 15 April 1974.

On 15 May 1973 the Chairman of the Senate Committee on Armed Services forwarded to your attention a copy of a letter, Enclosure 2, directing the Secretary of Defense to insure that any recommendations arising from the aforementioned study would be



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