

The world needs a new sea-level Panama Canal

by Carlos Wesley

“Crossroads of the world” and “funnel for the world’s commerce” are the two slogans most commonly associated with Panama. Some 40 ocean-going ships pass through the Panama Canal each day laden with the raw materials, semi-finished goods, and finished products that are the lifeblood of the world’s economy. That means that in a given year, some 14,000 ships, carrying over 160 million tons of cargo representing more than 4 percent of total world trade, go through the waterway. The canal is a marvel of American engineering connecting the Orient with Europe and Africa, North America with the nations of western South America, and the United States’ own Eastern Seaboard with its West Coast.

Transit is not limited to the canal. The legendary Panama Railroad, which carried the old Forty-Niners on their way to the California Gold Rush, still has an important role, although it is in disrepair. Panama is also playing a growing role as a transshipment point for air cargo. Alaskan North Slope oil is now reaching the eastern United States through a just-completed pipeline across Panama.

But the funnel is getting clogged. Rail and air transit through the isthmus may serve useful supplemental roles, but they cannot replace an inter-oceanic waterway. Maritime shipping is, and will remain, the most expeditious and economical way of moving goods. Yet for current world needs, the present Panama Canal is in danger of outliving its usefulness.

‘The Big Ditch’

Completed by the United States in 1914 after 30 years of work—including 20 years by the French, who failed to build a sea-level canal before the Americans took over—the Panama Canal has been rightly called “the eighth wonder of the world.” A ship literally “climbs” over the mountains as it crosses the 43-mile wide isthmus to get from the Atlantic to the Pacific Ocean. By means of locks, a ship is lifted from the Atlantic Ocean 85 feet above sea level to Gatun Lake, one of the largest man-made lakes in the world; travels across the Continental Divide through the famous Culebra or Gaillard Cut—the digging of which meant the removal of more than 280 million cubic yards of rock and earth; and is lowered

85 feet by other locks to the Pacific Ocean.

There are three separate sets of steel and concrete locks in the Panama Canal, of up to three chambers each. These lock-chambers are the steps that raise a ship to cross Gatun Lake and the smaller Miraflores Lake. Each chamber is 110 feet wide and 1,000 feet long, with massive lock-gates as high as an eight-story building. A ship going across the canal uses some 52 million gallons of fresh water, all of which is fed by gravity flow—there are no pumps—and then spilled into the ocean.

A great enterprise

According to Fernando Manfredo, deputy administrator of the Panama Canal Commission (see interview, below), unless certain improvements are soon undertaken, the present canal will reach a point of saturation by 1995. Even if those improvements are carried out, they will only add 10 years to the canal’s capacity for absorbing traffic.

But the Panama Canal could become a major bottleneck much sooner than Manfredo estimates, since his projections are based on current trends, which include a slowdown in world trade. If world trade were to grow by only 1 percent a year, shipping would exceed the canal’s maximum capacity long before Manfredo’s most optimistic calculations. Even today, it is not uncommon for ships to have to wait in line for as long as five days to make the nine-hour passage through the canal.

The Panama Canal has already outlived its usefulness for about 8 percent of the world’s ocean-going fleet. The “Big Ditch” has become too small for more than 2,000 of the world’s vessels. Many of the oil-carrying supertankers and other bulk carriers are as large as 250,000 tons. But the maximum size ship that the canal can handle is 65,000 tons. This also bars its use by U.S. Navy aircraft carriers of the *Enterprise* class.

The present canal could easily be made useless by sabotage. Terrorists could destroy or disable one or more of the lock-gates, or the dams that feed the water for the locks.

Sinking one or more vessels in the lock-chambers could also incapacitate the canal.

All the above considerations point to the need for a new sea-level canal capable of handling some of the world's largest ships. The present lock-canal was never conceived to be the optimum solution for a passageway between the two oceans. The lock system was designed as the most expeditious way to make the canal operational in as short a period of time as possible. *The idea was to replace it with a sea-level waterway as soon as practicable.*

As early as 1929, the U.S. Congress authorized a study of the feasibility of expanding the Panama Canal, and of building a new canal through Nicaragua. Similar studies were ordered in 1936 and 1939. Work was actually begun in 1940 to expand the current canal, but World War II brought excavations to a halt. Because of the perceived need for a larger and more easily defensible canal, Congress ordered further studies. A study completed in 1947 concluded that the current canal would begin to experience difficulties in handling the world's commerce by no later than the 1960s—as it has in fact—and recommended that a new canal be constructed.

In 1970, the Inter-Oceanic Canal Study Commission (IOCS), which had been appointed by President Lyndon Johnson in 1964, submitted a report comparing the advantages of eight routes across the isthmus. One of the most interesting aspects of this study, which was mostly conducted by members of the U.S. Army Corps of Engineers, was that it analyzed the feasibility of employing peaceful nuclear explosives (PNE) for the excavations. This aspect of the study, carried out by Lawrence Livermore Laboratories as a part of "Project Plowshare" under President Eisenhower's Atoms for Peace Program, concluded that on certain of the routes under consideration—those away from population centers—PNEs could be safely employed at a considerable savings of time and money. The excavation period could be cut in half, from 10 to 12 years by conventional methods, to 5 to 6 years if PNEs were used, according to the commission's report.

The IOCS report rates the routes across Panama, or near the Panama-Colombian border, as the most advantageous from the standpoint of political considerations, cost, ease of construction, and distance to be saved in routingships. The Nicaragua route, although it would take advantage of Lake Nicaragua, would require more digging. The same holds true for the River Atrato route in Colombia, and although in this case the possibility of employing PNEs would make excavations competitive with excavations by conventional means through some of the isthmian routes where the use of PNEs is not possible, the Atrato route would mean that a ship would have to travel some 700 more miles than at present.

Had work on a new canal begun in the 1970s, the costs of excavation, even by conventional methods, would not have exceeded \$3.5 billion, according to members of the Corps of Engineers that worked on the study. This outlay would have been recouped within 60 years of construction.

A contributory factor in delaying agreement on a new treaty with Panama for a sea-level canal was the leaking of

the recommendations, out of context, for the use of PNEs. This set off a wave of hysteria among Panamanians, who were led to believe that they would be guinea pigs in experiments with untested nuclear technologies.

A new accord with Panama was finally signed in 1977, the Torrijos-Carter treaties. But by then the Carter administration, fully committed to zero growth for the advanced sector and genocide for the Third World (as exemplified by the *Global 2000 Report*), was no longer interested in a great enterprise such as a sea-level canal, which would serve as the technological driver for development, not only of Panama but of the whole region. That was exactly what occurred when the current canal was built at the beginning of this century.

The 1977 treaties include a clause preventing either the United States and the Republic of Panama from undertaking the construction of a new canal without the consent of the other nation. This clause, in practice, limits Panama's sovereignty, since it denies Panama the right to undertake the project with another partner, such as Japan, without U.S. approval.

Japan wants new canal

The Japanese have shown a keen interest in the construction of a new canal, not only because Japan is, after the United States, the second largest user of the current waterway—but also because it perceives such a project as a catalyst for economic growth, to pull the world out of its current deep recession. This is stated explicitly in the proposal for a Global Infrastructure Fund for economic recovery made by Masaki Nakajima, founding chairman of the Mitsubishi Research Institute. Construction of a new Panama Canal and the 13 other "super projects" or "engineers' dreams," as the Global Infrastructure Fund proposal terms them, "would lead to the development of peaceful demand in the manufacturing industry as well as technological incentives in the advanced countries in lieu of arms production. Also expected would be the multiplier effects upon the national income and employment of many developing countries which would be recipients of the proposed projects."

At next month's Williamsburg economic summit, Japanese Prime Minister Yasuhiro Nakasone may propose that the industrialized countries, including the Soviet Union, join in establishing the Global Infrastructure Fund. According to Kyodo News Service, the prime minister will lay out a plan that would generate \$6 billion a year for the great enterprises. Japan will propose that the United States and the Soviet Union contribute 1 percent of their military budgets, and Japan provide 1 percent of its export earnings, a figure much larger than its military budget. The Mitsubishi infrastructural projects include irrigation-hydroelectric projects in Africa and India.

A co-thinker of Nakajima, Shigei Nagano, president of Nippon Steel and the Japanese Chamber of Commerce, has

taken the lead in pushing for the building of a new sea-level canal in Panama. Nagano's proposal is to construct the canal through Route 10 (see illustration). A few miles west of the current waterway (the canal's traverse is actually north-south, not east-west), the site identified as optimum by the IOCS in its 1970 report, although it is not suitable for the use of PNEs. Nagano has worked so energetically for this project that the Panamanian government honored him two years ago by naming a nearby hill after him.

State Department sabotage

Less successful have been his efforts to get the U.S. State Department to give the go-ahead for the project. The official line of the State Department is that all options should be studied, not only a sea-level canal, but the construction of pipelines, a new set of locks to handle larger ships, a rail line, and a trans-isthmian highway—in short, anything to delay or even prevent the construction of a sea-level canal. The Japanese have been forced to agree to join a tripartite study commission, with the United States and Panama, to analyze all these “options,” wasting valuable time that could better be employed in conducting the feasibility studies and undertaking the design of the new canal.

A propaganda campaign has been launched against the sea-level canal enterprise, contending that it would be too costly, that it would destroy the environment, that it would result in fewer jobs than a lock canal, and that it would bring about global ecological devastation by permitting species in one ocean to migrate to the other.

The State Department formula has gained many important adherents in Panama, as can be seen in the following interview with Panama Canal Commission Deputy Administrator Manfredo. He is known to favor adding a new set of locks to the present canal, the so-called Third Lock option.

There are other Panamanians who are keenly aware that what they would be getting in the year 2000 (when the treaties call for the present canal to be reverted to Panama) would be a waterway on the verge of obsolescence. These people realize that the time to start working on building a new canal is now.

One such person is Demetrio Vergara Stanziola, a Panamanian engineer, who details a proposal for a new canal. Vergara Stanziola's proposal is notable because he approaches the problem of building a new canal from the perspective of a great enterprise, a project that would improve conditions for the whole of mankind. His proposal is also unique in its design, because it eliminates the need for massive tidal gates at the entrances of the sea-level canal. The tidal gates are included in all the other proposals we are aware of. They are designed to deal with the problems caused by the significant differences in the tidal levels of the Pacific Ocean, as compared to the Atlantic.

The following interview with Vergara Stanziola should make clear what constitutes a great enterprise.

Interview: Demetrio Vergara Stanziola

'A new canal would be to strengthen the U.S.'

Panamanian engineer Demetrio Vergara Stanziola has come up with a novel design for a new sea-level canal through Panama, capable of handling supertankers and other large-scale vessels which cannot move through the present canal. Vergara's design does away with the need for tidal gates, and includes the proposal that much of the excavations be done by first flooding the area, and then dredging it—“dredging the mountain.” Although hydraulic dredging is somewhat more costly than conventional excavation methods, Vergara states in his book El Canal a Nivel (The Sea-Level Canal) that the extra expense is more than made up by the savings realized in the disposal of spoils, which can be piped out. This system of disposal consumes less energy and is more efficient than haulage by either truck or rail, both of which have a built-in inefficiency factor of 50 percent (on the return trip, the conveyance is empty).

Our correspondent caught up with Vergara Stanziola in Panama City on March 4. Excerpts from his interview follow.

Wesley: Can you tell us briefly, exactly what it is that you are proposing?

Vergara Stanziola: It is a project for a sea-level canal across Panama, which follows the approximate alignment of the so-called Route 10. It will allow traffic—dispensing with tidal gates, and virtually eliminating tidal currents—under conditions of maximum security for inter-oceanic navigation, of vessels of 250,000 tons or more, without interruptions, locks, or the need for convoys.

The complex of technologies that I propose be employed in building the canal, which I call “dredging the mountain,” will result in considerable savings of energy, and take full advantage of hydraulic resources for the generation of electricity, and to establish huge reserves of potable water, the “transparent petroleum” of the future. My methods will significantly reduce costs, as compared to conventional methods, and also reduce the risks to human life during the period of construction.

Wesley: Today, using the existing lock canal, it takes a ship from 8 to 10 hours to make the crossing from one ocean to the other. How long will it take through a canal such as the one you propose?

Vergara Stanziola: Around five hours.

Wesley: You are proposing a canal that can handle two

an essential link and world trade'

vessels of up to 250,000 tons each, simultaneously, going in opposite directions. The existing canal cannot handle that kind of tonnage, which means that a significant portion of the world's oceangoing fleet cannot use it. The urgent need for a new canal has been made clear since at least 1970, when the Inter-Oceanic Study Commission issued its report. In 1970, it was estimated that the excavations would only cost about \$3.5 billion; your proposal, I believe, would cost about \$17 billion. . . .

Vergara Stanziola: Between \$14 and \$15 billion if work were to start by 1985.

Wesley: . . . And how long will it take to complete the construction?

Vergara Stanziola: The construction itself would take about 12 years, but you would need an additional two years for the feasibility studies. . . .

Wesley: Then why has work not begun, if we already knew in 1970 that we could have built the thing for \$3.5 billion, and when even the \$15 billion you talk about is not a great deal when you distribute them over 12 to 14 years?

Vergara Stanziola: I believe that the Americans, apparently, are trying to gain time. First there was the problem that a new treaty on the existing canal had to be agreed upon. That was finally done in 1977, and through it they ensured that any study on a new canal, be it a lock canal or a sea level one, will have to be done in partnership with the United States. Therefore, they know that they have that absolutely inviolable right, consecrated by the treaties, when they are ready. They will get interested in the construction of a new canal when the world situation presents that project as the way out of some other, structural, problems.

Wesley: Fernando Manfredo, Deputy Administrator of the Panama Canal Commission, and officials of the government of Panama and of the U.S. State Department have presented a series of alternatives, such as a "dry canal," an overland rail line or highway, pipelines, or even widening the existing canal, or adding a new set of locks—the so-called "Panamanian alternative," proposed by the engineering firm of López and Moreno. In your view, are any of these alternatives more feasible than a sea-level canal?

Vergara Stanziola: I believe that the construction of a sea-

level canal will still be necessary, because the massive transportation of products dictates it. Of course, we can see that mineral products, petroleum, can be carried by pipelines, but that requires the use of a great deal of energy.

If you have an aquatic medium of sufficient capacity available, the most expeditious and cheapest way of moving goods is by steel over water, and that is the way of passing the supertankers from one ocean to the other directly, from the point of production, to the final destination, in one single continuous process. The same applies to other minerals. The other methods of transportation are complementary ones, because we lack a sea-level canal, but if we had such a canal, the other options would become irrelevant.

Wesley: You have said that this project will be the greatest work of excavation that will be carried out in this century. The Japanese have expressed a tremendous interest—they are very interested in the building of a new inter-oceanic canal. Do you believe that they would be the ideal partners for a project of this type, bypassing in that way the perceived negative attitude of the Americans toward the project, or can an agreement be worked out between the three parties, Panama, the United States, and Japan to get construction underway?

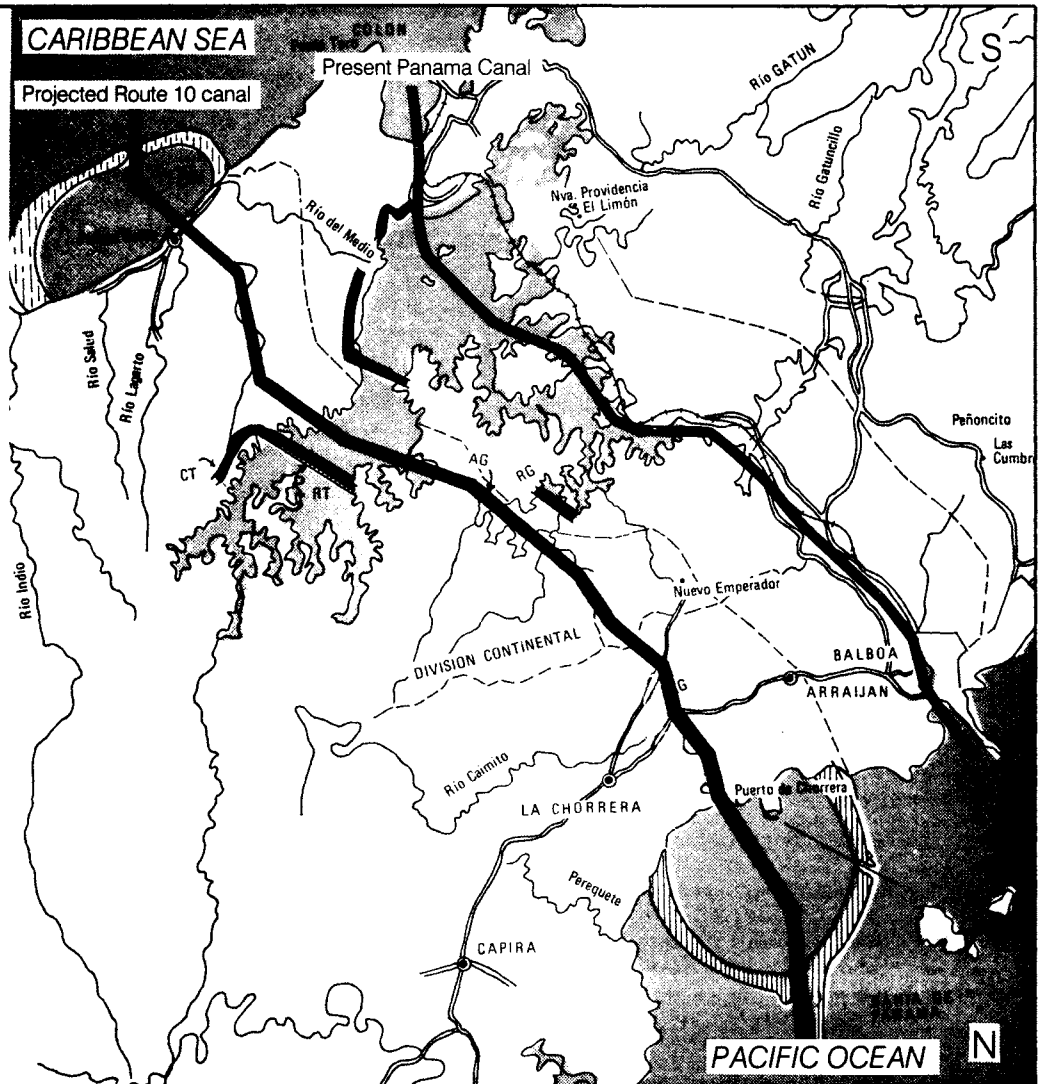
Vergara Stanziola: Rather, I believe that an understanding on the future construction of a sea-level canal will have to be reached between the United States, Japan, Panama, and other major users. However, the United States will still want to retain a significant and controlling role over the future sea-level canal, because they consider it to be inextricably linked to their inter-coastal—Atlantic coast, Pacific coast—transportation needs, and it has always been among their major concerns for their own national development.

Wesley: Most designs before yours have proposed to solve the problem of the differences in the tides between the Atlantic and the Pacific by means of tidal gates. Your design does not include such gates; how do you get around that problem?

Vergara Stanziola: The solution that I have proposed is the construction of massive breakwaters, which project about 10 miles into the ocean from the Pacific coast, and a shorter distance on the Atlantic side, because the depths of the Atlantic are greater than the coastal and continental platform depths of the Pacific. . . .

The tidal intake, which is forcibly limited by this design, expands within the artificial coves that are formed inside of these massive breakwaters, and projects itself in a fan-like shape, losing speed. It is a hydraulic phenomena, which is perfectly normal. The calculations of the velocity of the tide is limited in this way to only the length of the canal and the passageways to the coves themselves, which are about one and a half kilometers in length. Ships would transit through these entry ways, at their usual speeds, in about four or five minutes. That is where the velocity of the tides would be at

The Route 10 canal proposal



From the book *El Canal a Nivel*.

their maximum. From there on in, the tidal velocities decrease rapidly, until the entrance to the canal proper where they would practically be zero.

Wesley: Among the objections voiced by those who oppose a sea-level canal is that it would lead to an ecological disaster, as species from the Atlantic migrate to the Pacific, and vice-versa, creating imbalances in the flora and fauna. Does your design include any means for avoiding this problem?

Vergara Stanzola: . . . Although I do not completely explain it, in my book I talk about an aquatic ecological curtain—of sweet water—which could come from the medium-sized rivers of the watershed around the canal. These would appreciably modify the salinity of the canal prism. But, one of the principal factors that we have to consider regarding the intrusion and interaction of the biota from both oceans through the canal, is the velocity of the currents.

According to my design, we would have a canal with practically no currents. The problem of the currents is solved

by the artificial coves established on the Atlantic and Pacific coasts. That means there will be little velocity available for the transit of these animal and plant life, and much more control over them. What's more, in the coves themselves, we will have the potential for many of these species to proliferate, so that no one has to worry that they will emigrate through the canal passage, which has a different level of salinity.

Wesley: Another one of the objections to a sea level canal is that it would eliminate jobs, that it would provide less jobs than the current lock canal.

Vergara Stanzola: . . . A canal that needs more people to run it, is a less efficient canal. We must think of efficient enterprises. If we want to employ people, we must look for resources, potentials of other types, and see to it that the sea-level canal itself is accompanied by a series of structures, facilities, and installations that would allow for the establishment of new industries in Panama. . . . This would generate

more employment than building another, more inefficient lock-canal just because it would need eight thousand people to run it.

Wesley: In your book you talk about the possibility that, for example, the Japanese could establish great steel-making complexes in Panama, as an example of the type of new industries that could develop as a consequence of a new sea-level canal.

Vergara Stanziola: The great iron ore deposits that are in the South American continent are in Venezuela, in the Orinoco region, and in Carajás in Brazil, which has enormous deposits with an estimated value of \$40 billion dollars. Venezuela also has bauxite, which is one of the essential raw materials for modern technology, for the making of aluminum, in the Caroni region.

Colombia has the famous Cerajón hill, which has an immeasurable potential for coal production. All of these, to get to the industrialized and industrializing nations of the Far East, must necessarily go through the Panama Canal.

Japan has the need to import great quantities of these materials to its own territory, to there transform them into finished goods, which consume oil that is also imported. It is obvious from an economic standpoint, that the establishment of great iron foundries in Panama could, in a certain way, complement the work of the large Japanese industries. Because, if you already have the steel manufactured in Panama, they can make the finished goods that require a higher technology—automobiles, refrigeration components, and other goods that you need for those basic products—at a lower cost.

That is why I believe the Japanese are so interested in establishing themselves in Panama. We have seen how [Shig-ei] Nagano's group came with a large entourage of industrialists and businessmen to assess the possibilities of establishing themselves in the industrial field. First, to develop, little by little, the nucleus, to develop the skilled labor force, so that in the future they can develop and expand those industries that they will establish in Panama, initially as a kind of development foci.

Wesley: You say that water is the "transparent petroleum of the future," a saleable natural resource that could be sold to, for example, Saudi Arabia. Could you expand on that idea?

Vergara Stanziola: Yes. If in the future, as things develop and routes get modified, when tankers bearing Saudi oil, be they Saudi Arabian flagships or ships of a different flag, come here, it is possible—if the scarcity of water, which is becoming a crisis, continues to worsen—that those ships could carry water from Panama as ballast on the return trip. That water would be slightly contaminated, but they could store it, decant it, and possibly use it as potable water. More likely, they could use it for industry or for agricultural purposes. In the future, having good water will have as much, if not more, importance than oil.

Wesley: The Mitsubishi Research Institute has proposed a series of "great enterprises" that in their estimation would serve as science and technology drivers for the economic development of all of mankind. Your book opens with the following invocation: "I pray that You lift what for You would only be a little slice of my land, if that would also serve to bring humanity closer together." It seems to me that your proposals fit into the concept of what Lyndon LaRouche and Mitsubishi define as "Great Enterprises."

Vergara Stanziola: Yes, I conceive of this as a great enterprise. . . . That is why I call upon the Lord's power to pour his Spirit over this project, so that this endeavor will be taken as seriously as possible, because it is one of the greatest projects on earth, and it would bring more unity to all the people of the world.

I do not mean that just because we have a more expeditious way across the oceans, that humanity will come closer together. But the effect on the universal spirit of all that a project of this magnitude entails, will have incalculable results. . . . It will allow all the countries of the world to communicate better, to strengthen their mutual economies, their mutual trade, not with divisive spirits, ignoring the limitations of particular systems and restrictive political and economic theories. . . .

For Panama, the construction of this canal would mean, in the first place, the invigoration of our economy. Besides the future benefits that it would bring to humanity, it creates an opportunity for the development of new technology on the part of interested countries—be it the United States or Japan, or other countries.

For the nations of Latin America, such as Venezuela, and Brazil, it offers the opportunity of exporting their iron. Venezuela already manufactures tubing; it can export the tubing needed for dredging through the mountains. . . . Colombia can also sell part of its production. France, which provided the steel and the tubes for the pipeline just built in Panama, would also have an interest in selling, not only tubing, but machinery for the construction of the new canal.

Wesley: Any other reflections?

Vergara Stanziola: I want to address the American people: They must take more of an interest in these projects that bear directly on the shipping from coast to coast of their products. They once had a President with vision, Theodore Roosevelt, who did everything possible so that a canal through Panama would be built. Then, the American vision was clear and aggressive. Today they have greater technology and financial resources than they had then. . . . They should base their decisions not only on momentary considerations, but they must safeguard those interests that are more permanent, that affect their security and stability as the leader of the economy of a large part of the world. And the Panama Canal is an essential link to strengthen the United States economy and security.

'In twenty years, old canal won't suffice'

Fernando Manfredo, deputy director of the Panama Canal Commission, is the chief Panamanian officer on the U.S.-run commission, who will be overseeing day-to-day operations of the canal until it reverts to Panama in the year 2000. Below are excerpts from an interview with EIR's Carlos Wesley on March 2 which took place in Panama City.

Wesley: There has been much in the press lately about the labor problems caused by the fact that American workers in the canal get a higher pay than Panamanian workers.

Manfredo: In the old Canal Zone, the Panama Canal Company, the U.S. armed forces, and the Canal Zone government paid salaries that were based on the salaries on the continental United States. . . . It was the only case outside of the United States proper where the American government paid salaries that were tied to the prevailing wage scales in the United States.

When the new treaties were negotiated and Panama recovered its jurisdiction, the United States decided that it no longer had the obligation to keep the same wage scale. Therefore, in the treaty itself, workers that were already on the payroll were "grandfathered," but those that were to be hired after Oct. 1, 1979 [when the treaties took effect] had to be tied to a wage scale based on the Panamanian labor market. . . .

The problem was taken up with the board of directors, which at its most recent meeting decided to equalize the salaries for certain levels within the organization, but not because of the fact that there is discrimination—the Panama Canal Commission does not accept that there is discrimination, nor does the United States government. They say that there may be disparities, but no wage discrimination. Those salaries that were upgraded were those where we found that the commission is not competitive in the local market, not attractive enough to keep the quality of worker that we need.

But all the rest of the employees are still pending, that is the majority of new employees. . . .

Wesley: There was a lot of controversy generated because the board had agreed to do away with the double scale, and then later rescinded the decision.

Manfredo: No, you are referring to a previous meeting where

the members were different from the current one. The American members of the board, of which there are five, and who form the majority, could not reach a consensus, which meant that the retention of the dual scale was not going to obtain a majority of the votes. At that point, the president of the board—who is also the representative of the U.S. Secretary of Defense, and the head of the American representation—invoked a provision from U.S. Law 970, which gives him the right to exercise what is called the directed vote, to vote in the name of all.

Wesley: The recent decision to raise tolls was not taken too kindly by many of the nations at the southern end of the hemisphere. They thought that Panama owed them something for the support they gave this country in getting the United States to agree to a new treaty.

Manfredo: The tolls were raised in part to make up for the loss of clients we suffered when many started using the oil pipeline that was built across Panama. The loss of this business, which means a loss of \$50 million to \$55 million a year, meant that a toll increase was inevitable. However, we took into account the fact that maritime trade today is going through rough times, and we also took into account the effect a toll increase would have on the economies of neighboring countries, particularly on Central America. . . . To compensate for our losses, we should have raised tolls by almost 17 percent; instead we only raised them by 9.8 percent; and decided to make up the difference by cutting our costs.

Wesley: What are the long-term perspectives? What does the canal commission foresee will happen between now and the year 2000 in terms of new facilities?

Manfredo: It is difficult to make accurate predictions for such a long period of time. But if transit continues to grow at the current rates—some 14,000 ships are going through the canal each year, and the rate of growth is very low, about 2 to 2.5 percent a year—we could expect that by the year 2005 we will have a completely saturated canal, even if we carry out a plan to improve the canal, which is awaiting a final decision, to widen Culebra Cut and the entrances to the canal. If that program is not carried out, then we would reach the saturation point much earlier, around 1995. It is very important that by that point, when the canal would be virtually in Panamanian hands, that the Republic of Panama should have reached some decisions about whether it wants to continue to participate in handling the growing volume of traffic, and in what way: whether it wants to employ some other transportation techniques such as a sea-level canal, adding a third set of locks to the existing canal, pipelines, a land bridge, or some other means of transport across the isthmus.

Wesley: Are you saying that the canal will be obsolete by the year 2005?

Manfredo: Not obsolete, saturated. Obsolete is when you cannot use it. It will be used to its maximum capacity.