

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

Minute No. 279

Laredo, Texas and
Nuevo Laredo, Tamaulipas
August 28, 1989

JOINT MEASURES TO IMPROVE THE QUALITY
OF THE WATERS OF THE RIO GRANDE
AT LAREDO, TEXAS/NUEVO LAREDO, TAMAULIPAS

The Commission met in the cities of Laredo, Texas and Nuevo Laredo, Tamaulipas on August 28, 1989, to consider the border sanitation problem at Laredo, Texas and Nuevo Laredo, Tamaulipas and to recommend to the two Governments joint measures to improve the quality of the waters of the Rio Grande.

The Commission then noted the interest in concluding, a Commission agreement as early as possible, for jointly financed measures that should be adopted to improve the quality of the waters of the Rio Grande in the Laredo, Tex./ Nuevo Laredo, Tam. area, expressed by the United States Secretary of State and the Mexican Secretary of Foreign Relations in their diplomatic notes No. 3522 and 2487, respectively, at the Seventh Meeting of the United States/Mexico Binational Commission in Mexico City on August 7, 1989.

The Commission referred to the last paragraph in Article No. 3 of the Water Treaty signed February 3, 1944,¹ which stipulates that the two Governments "agree to give preferential attention to the solution of all border sanitation problems". The Commission also referred to the spirit of cooperation exhibited by the two Governments in the "Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area," signed by Presidents Ronald W. Reagan and Miguel de la Madrid Hurtado on August 14, 1983.²

The Commission then referred to Recommendation No. 4 of Commission Minute No. 261 dated September 24, 1979,³ approved by the two Governments, which stipulates, "That for each of the border sanitation problems, the Commis-

¹ TS 994; 9 Bevans 1166.

² TIAS 10827.

³ TIAS 9658; 31 UST 5099.

sion prepare a Minute for the approval of the two Governments, in which there would be included, identification of the problem, definition of conditions which require solution, specific quality standards that should be applied, the course of action that should be followed for its solution, and the specific time schedule for its implementation."

The Commissioners also noted the provisions in Point 6 of the recommendations of Minute No. 261, "That in each case where the approved course of action provides that a border sanitation problem be jointly corrected by the two Governments, the Commission develop the plans and designs for the works necessary therefore, as well as the division of work and costs between the two countries, submit them for approval of the two Governments, and upon such approval, each Government through its Section of the Commission proceed to carry out the construction, operation and maintenance, with the greatest speed and timeliness possible."

The Commissioners reviewed the report of Principal Engineers Jose S. Valdez of the United States Section and J. Arturo Herrera Solis of the Mexican Section entitled "Joint Report of the Principal Engineers Concerning Measures that Should be Undertaken to Improve the Quality of the Waters of the Rio Grande at Laredo, Texas/Nuevo Laredo, Tamaulipas", dated August 25, 1989, which describes the border sanitation problem in the waters of the Rio Grande in the area of Laredo, Tex./Nuevo Laredo, Tam., and conditions expected in case that no corrective action of any kind is taken.

The Commissioners then noted that the Principal Engineers in their report recommend works in Nuevo Laredo, Tam. that could be jointly financed by the United States and Mexican Governments to improve the quality of the waters of the Rio Grande in this reach. The Commissioners further noted that the works recommended by the Principal Engineers for the city of Nuevo Laredo, Tam. described in Exhibit 4 of their Joint Report, consist of six principal elements: a) Construction of a riverside collector; b) Construction of the Coyote I collector as an extension of the riverside collector; c) Expansion of the sewage collection system to collect and convey to the riverside and Coyote I collectors, sewage generated in areas not currently served and which are presently discharged into the Rio Grande; d) Rehabilitation of the sewage collection system at specific points to intercept and convey to the riverside and Coyote I collectors those uncontrolled sewage flows that presently discharge into the Rio Grande through existing storm drains; e) Construction of a pumping plant that would convey the sewage from the riverside collector to a treatment plant; and f) Construction of a secondary treatment plant, with an estimated capacity of 31 mgd (1,358 lps)

located 7 miles (11 kilometers) downstream of the Juarez/Lincoln International Bridge.

The Commissioners then joined in the conclusion of the Principal Engineers in their Report that the border sanitation problem in the vicinity of Laredo, Tex./ Nuevo Laredo Tam., would be resolved, if: 1) the proposed jointly financed works consisting of the principal elements described in Exhibit 4 of the Joint Report are constructed, operated and maintained in a manner that meets the joint sanitation project conditions described in Section III, Part D, Point 1 of the Joint Report of the Principal Engineers and 2) the Governments of Mexico and of the State of Tamaulipas construct and operate and maintain those sewage management works not included in the principal elements of this joint project in a manner to also meet conditions required in the Principal Engineers' report. The Commissioners observed, that it is in the interest of both Governments to assure that the effluent standards from a treatment plant in Nuevo Laredo, Tam. are achieved by the joint financing of the construction, operation and maintenance of the six principal elements described in the Principal Engineers' report.

The Commission then noted the information of the United States Commissioner that the Government of the United States is willing and able to participate with the Government of Mexico in the construction, operation and maintenance of the six principal elements of the proposed joint sanitation project.

The Commissioners analyzed the possibility of applying to this proposed joint sanitation project the provisions in Article 2, 3, 20, 24 and 25 of the 1944 Water Treaty and provisions in Minute No. 261 of the Commission. They also recognized that execution of the joint sanitation project, recommended by the Principal Engineers, could comply with the referenced provisions concluding that this project is of an international nature. Therefore, the construction and operation and maintenance of the six principal elements of the international joint sanitation project will be under the supervision of the Commission and under the jurisdiction of the Mexican Section.

Based on the above, the Commission agreed to submit for the approval of the two Governments, the following resolutions:

1. The report of Principal Engineers Jose S. Valdez of the United States Section and J. Arturo Herrera Solis of the Mexican Section, entitled "Joint Report of the Principal Engineers Concerning Measures that Should be Undertaken to Improve the Quality of the Waters of the Rio Grande at Laredo, Texas/ Nuevo Laredo, Tamaulipas", dated August 25, 1989, which with its Exhibits 1-

6¹ forms a part of this Minute, is approved. The report proposes a sanitation project for the City of Nuevo Laredo, Tam., to be jointly financed by the Governments of the United States and Mexico.

2. That the Commission continue its intensive water quality monitoring in the Rio Grande preparatory to recommending to the two Governments surface water quality standards that should be applied to the solution of border sanitation problems.

3. That the effluent from the proposed jointly financed wastewater treatment plant in Nuevo Laredo, Tam. meet the effluent standards described in Section III, Part B of the report of the Principal Engineers, with the understanding that each country, in accordance with its legislation, could establish more restrictive limits on discharges into the Rio Grande emanating in its respective territory.

4. That the Governments of the United States and Mexico participate in the joint financing of the construction, and operation and maintenance of the six principal elements that make up the international sanitation project, described in Exhibit 4 of the report of the Principal Engineers.

5. That in accordance with the provisions in Articles 2, 3, 20, 24 and 25 of the 1944 Water Treaty, the construction, operation and maintenance of the six principal elements of the joint international sanitation project described in Exhibit 4 of the Principal Engineers' report be considered works constructed and used in fulfillment of the provisions of the 1944 Water Treaty and are therefore, under the supervision of the Commission, and under the jurisdiction of the Mexican Section.

6. That the actual costs of construction of the principal elements of the proposed jointly financed sanitation project be divided equally between the United States and Mexican Governments. The cost corresponding to the United States, in no case, shall exceed 50 percent of the total cost estimated at \$35 million United States dollars. The costs corresponding to Mexico will be covered in Mexican pesos.

7. That in the event that construction costs exceed the amount in Resolution No. 6, above, the Government of Mexico assure at its expense, completion of construction of all the principal elements described in Exhibit 4 of the Principal Engineers' report.

8. That for the costs of the operation and maintenance of the principal elements of the proposed jointly financed sanitation project described in Exhibit

¹ Exhibits 1-6 are not printed. Available from the Office of Treaty Affairs, Department of State.

4 of the Principal Engineers' report, the Commission reach an agreement on the division of these costs before operation of the proposed project begins.

9. That the design, construction and operation and maintenance of the principal elements described in Exhibit 4 of the Principal Engineers' report be under the supervision of the Commission and be under the direct control of the Mexican Section. Also, that the operation and maintenance of the principal elements be in accordance with an operations and maintenance manual and a specific program recommended by the Commission and approved by both Governments.

10. That the Government of Mexico immediately start the construction of the expansion and rehabilitation of the city of Nuevo Laredo, Tam. sewage collection system works, and that the construction schedule proposed by the Government of Mexico, described in Exhibit 6 of the Principal Engineers' report be accepted.

11. That the Commission recognizing that Mexico has initiated works contemplated in this joint sanitation project, Mexico should be given credit for this work towards part of the financing of an international project. That to evaluate these works in order to provide this credit, the engineers of the Commission, immediately but no later than 90 days after the Minute enters into force, should make an evaluation of the works to determine the amount provided by Mexico in the costs associated with the expansion and rehabilitation of the collection system and the works associated as part of the riverside collector performed since 1988 and are part of this international project.

12. That the Governments of the United States and Mexico make arrangements necessary to provide sufficient funds to achieve the construction schedule also described in Exhibit 6 of the Principal Engineers' report, with the understanding that the funds for 1990 and subsequent years would be provided once each Government, through its appropriate mechanism, appropriates the proposed specific amounts.

13. That the funds provided by the Government of Mexico for this joint sanitation project be utilized primarily in construction of the six principal elements, including the acquisition of required lands and right-of-ways. That the funds provided by the United States Government for this international project be utilized primarily in acquisition of materials and equipment.

14. That to the extent possible, construction of the principal elements described in Exhibit 4 of the Principal Engineers' report be performed by Mexican contractors under the supervision of the Commission, and that the materials

and equipment used in the construction of this international project be those manufactured in the United States.

15. That the Mexican Section with approval of the Commission and, in accordance with applicable laws in Mexico, directly administer the funds provided by the United States Government to be utilized in Mexico.

16. That the Commission, through the Mexican Section, be able to contract for professional services using financial or other resources provided by the United States or Mexico. Such services would be for supervision or engineering that the Commission may consider necessary for the proper administration of this project.

17. That the administration by the Mexican Section of United States funds include: a) Development of contracts necessary for construction of facilities, purchase and installation of materials and equipment; b) Review of construction plans, including characterization of treatment plant inflows for compliance with Resolution 3, above; c) Daily supervision by Commission engineers of all the international project works in their execution for compliance with the design approved by the Commissioners; and d) the transfer of United States Government funds for payment to the contractor.

18. That the Commission engineers charged with the supervision of the project, based on the daily supervision in Resolution 17 above, present each month to the Commissioners a detailed progress report of construction and expenditures.

19. That the Commission, at the end of the construction of each principal element make a joint inspection of the work performed and approve an accounting of United States funds utilized in the construction of that element. Upon completion of construction of the international project the Commissioners shall make a joint inspection of all work performed and approve a final accounting of all United States funds utilized.

20. That the Government of Mexico require all industries discharging wastewater to the joint sanitation project facilities to provide appropriate pretreatment to assure efficient operation of the proposed treatment plant.

21. That before the start of the construction of the treatment plant proposed for Nuevo Laredo, Tam. the Principal Engineers of the two Sections, jointly develop an appropriate program for monitoring of the water quality in the Rio Grande and discharges to the river for the reach of the river whose quality would be improved by the works proposed in this international sanitation project.

22. That the Governments of the United States and Mexico recognize that Mexico reserves the right to dispose in Mexico all or part of the sewage from Nuevo Laredo, Tam., consistent with the desire of the two Governments, in the context of Minute No. 261 of the Commission, to prevent border sanitation problems. Also, Mexico reserves the right to return for reuse in Mexican territory the effluent from the Nuevo Laredo, Tam. international sewage treatment plant.

23. That this Minute requires the specific approval of the two Governments.

The meeting was adjourned.

Narendra N. Gunaji
United States Commissioner

Carlos Santibanez Mata
Commissioner for Mexico

Manuel R. Ybarra
U.S. Section Secretary

Javier Gonzalez Toussaint
Mexican Section Secretary

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

Ciudad Juarez, Chihuahua

August 25, 1989

JOINT REPORT OF THE PRINCIPAL ENGINEERS
CONCERNING MEASURES THAT SHOULD BE UNDERTAKEN TO
IMPROVE THE
QUALITY OF THE WATERS OF THE RIO GRANDE AT
LAREDO, TEXAS/NUEVO LAREDO, TAMAULIPAS

To the Honorable Commissioners
International Boundary and Water Commission,
United States and Mexico
El Paso, Texas and Ciudad Juarez, Chihuahua

Sirs:

In accordance with your instructions, we respectfully submit for your consideration this joint report proposing measures that should be undertaken by the United States and Mexico as part of a jointly financed project to improve the quality of the waters of the Rio Grande at Laredo, Texas/Nuevo Laredo, Tamaulipas.

We considered, the following criteria to accomplish the objective of improving the quality of the waters of the Rio Grande in this area:

1. That the measures adopted result in a significant water quality improvement.
2. That the cost of the measures be equally shared between the United States and Mexico.
3. That the measures be under the supervision of the International Boundary and Water Commission, United States and Mexico.

I. DESCRIPTION OF THE PROBLEM

We have reviewed the record of water quality sampling and analyses, along with the information on discharges of wastewaters to the Rio Grande in the Laredo, Tex./Nuevo Laredo, Tam. area, and observed that present sanitary conditions threaten the health and well-being of inhabitants in both countries in this area or impair the beneficial uses of these waters.

TIAS 11701

A. *Conditions at Laredo, Tex.*

We observed that the city of Laredo, Tex., with a 1988 population of about 115,000, collects all of the existing sewage load and provides secondary treatment before discharge to the Rio Grande. Secondary treatment is provided by two plants with a capacity totaling 11 mgd (486 lps) which discharge to the Rio Grande. The first plant, Zacate Creek Wastewater Treatment Plant, is an 8 mgd (350 lps) activated sludge/trickling filter facility located at the confluence of Zacate Creek and the Rio Grande, about 0.5 mile (0.8 km) downstream of the Juarez/Lincoln International Bridge. The second plant, Laredo Southside Wastewater Treatment Plant, is a 3 mgd (131 lps) oxidation ditch facility located about 3 miles (5 km) south of the City of Laredo, Tex. on the left bank of the Rio Grande. The effluents from these treatment plants are disinfected prior to discharge to the Rio Grande. The City of Laredo carries out a continuous operation and maintenance program to ensure compliance with United States effluent standards and surface water quality standards of the river. Finally, the city plans to increase its treatment capacity, as needed to keep ahead of the growing sewage load.

B. *Conditions at Nuevo Laredo, Tam.*

For Nuevo Laredo, Tam. on the right bank of the river, we observed that the City, with a 1988 population of about 400,000 does not have sewage treatment facilities. About 70 percent of the population is connected to the Nuevo Laredo sewage collection system, which discharges to the Rio Grande an average of about 20 mgd (876 lps) of untreated sewage at some 28 locations. These discharges of untreated sewage create a serious health hazard in the river for a distance of 41 miles (66 km) downstream. A map that shows the present sanitary conditions in the Laredo, Tex./Nuevo Laredo, Tam. area is enclosed as Exhibit 1.

C. *Existing Water Quality of the Rio Grande*

We have reviewed the record of continuing water quality sampling and analyses made under the memorandum of the Commission's Engineers entitled "Initial International Program for Observation of the Quality of International Waters of the United States and Mexico", dated July 5, 1977. We observed that the Rio Grande water quality analyses at stations established, 8.6 miles (13.8 km) and 41 miles (66 km) downstream of the Nuevo Laredo, Tam. discharges shows fecal coliform concentrations exceeding 10,000 colonies/100 ml. A record of fecal coliform levels upstream and downstream of the Laredo, Tex./Nuevo Laredo, Tam. urban area is shown on Exhibit 2.

Downstream of the Laredo, Tex./Nuevo Laredo, Tam. urban area, large areas of lands, both in the United States and Mexico, are irrigated with water pumped directly from the river. Using contaminated water for crops presents a potentially serious health threat to the people consuming agricultural products irrigated with those waters. Of greater importance, the communities of San Ygnacio, Tex. and San Ignacio, Tam. located 40 miles (64 Km) downstream of Laredo, Tex./Nuevo Laredo, Tam., obtain their drinking water from the river. Also there is a health threat to those people coming in contact with those contaminated waters.

We observed that during periods when the International Falcon Reservoir storage has declined significantly, the wasteload assimilative capacity of that reservoir is reduced. During such periods, the pollution generated in the Laredo, Tex./Nuevo Laredo, Tam. area could adversely affect the municipal water systems at Zapata, Tex. and Nuevo Ciudad Guerrero, Tam. Should inflows of polluted water continue over a long period, accelerated eutrophication of the reservoir could take place. We further observed that downstream of International Falcon Dam, communities with a combined population of 1.5 million in the United States and Mexico and some 1.2 million acres (486,000 hectares) of irrigated lands in both countries depend on the waters stored in International Falcon Reservoir.

We concluded that the assimilative capacity of high flows in the Rio Grande from releases made from the upstream International Amistad Dam has prevented more serious pollution in the water downstream of Laredo, Tex./Nuevo Laredo, Tam. Nevertheless, such high river flows cannot be depended on to provide dilution during dry years when there would not be sufficient assimilation capacity and dilution in that reach of the river, and we estimate that sewage contributions in this area would continue to increase.

II. *FUTURE CONDITIONS*

We estimate that the population of Laredo, Tex. will grow to about 180,000 by the year 2000 with a total sewage load of about 18 mgd (790 lps), such that unless expansion of the sewage system takes place, there could be untreated sewage discharges into the Rio Grande.

For the year 2000, the city of Nuevo Laredo, Tam. is expected to have a population of about 600,000 with a collected sewage load of about 31 mgd (1,358 lps). As the city of Nuevo Laredo, Tam. expands along the Rio Grande and in the absence of improvements, there will be discharges of untreated sewage into the river.

We observed that a large number of industrial plants are being located in both cities. Should they not have wastewater treatment systems, these plants could add industrial pollutants to the Rio Grande, aggravating the present problem. We concluded that it will be of great importance to include in the plan to resolve the Laredo, Tex./Nuevo Laredo, Tam. sewage problem, provisions for an appropriate treatment of industrial wastewaters.

III. *RECOMMENDATIONS TO IMPROVE THE QUALITY OF THE WATERS OF THE RIO GRANDE AT LAREDO, TEX./NUEVO LAREDO, TAM.*

A. *Water Quality Standards*

We observed that to protect the public health and beneficial uses of the waters of the Rio Grande, each Government has established water quality standards for receiving bodies in its territory. We observed, however, that the Commission continues to evaluate analyses in both countries of intensive water quality monitoring, preparatory to recommending surface water quality standards applicable for the solution of border sanitation problems.

B. *Effluent Standards*

For the United States, the effluent from the treatment plants into the Rio Grande at Laredo, Texas should comply with the following standards:

Qualitative:

The effluent shall not contain floating solids or existence of persistent foam beyond the immediate vicinity of the outfall.

The effluent shall not contain substances in concentrations, which are toxic or harmful to human, animal, or aquatic life or may significantly impair the beneficial use of the waters receiving the effluent.

Quantitative

The effluent shall be limited to the following:

Dissolved Oxygen (DO)	Not less than 2.0 mg/l
pH	Not less than 6.0 or greater than 9.0
Fecal Coliform	30-day average value of 200 colonies/100ml
Suspended Solids	30-day average value of 20 mg/l
Biochemical Oxygen Demand (BOD ₅)	30-day average value of 20 mg/l

For Mexico, the standards for effluent for Nuevo Laredo, Tam. into the Rio Grande are different than those in the United States. Nevertheless, we observed that the standards utilized by the United States for this reach of the river could be applicable for the case of the effluent from the treatment plant in Nuevo Laredo, Tam., subject to the control measures necessary to achieve these standards being jointly financed by the Governments of the United States and Mexico.

Notwithstanding the above, each country in accordance with its internal regulations, could impose more restrictive limits on discharges emanating in its respective territory.

C. Laredo, Tex.

To prevent the discharge of untreated sewage into the Rio Grande from the city of Laredo, Tex., the responsible authorities plan to unilaterally expand Laredo's collection and treatment system consistent with wastewater planning requirements in the United States.

The United States Government, consistent with its pollution control laws would assure that the inflows into the Laredo, Texas treatment plants are not adversely impacted by industrial wastewaters.

D. Nuevo Laredo, Tam.

1. Joint Sanitation Project Conditions

We examined the information provided to the Commission by the Secretariat of Urban Development and Ecology of Mexico (SEDUE) and the Secretariat of Urban Infrastructure of the State of Tamaulipas regarding an Integrated Potable Water and Sewerage Project for Nuevo Laredo, Tam. We recognized that Mexico has initiated works contemplated in this project for which Mexico should be given credit of such costs towards the financing of an international project. We considered that for that project the following conditions should be met so that both Governments participate in its joint financing:

For Sewage Collection Lines

- a) Eliminate all discharges into the Rio Grande of untreated sewage generated in the city.
- b) Effect conveyance of all sewage by gravity to the maximum extent possible.
- c) Utilize sulfate attack resistant materials in the construction of the main collectors.
- d) Perform continuous cleaning of sewer lines.
- e) Provide sufficient capacity in the collection system to convey all sewage to a treatment system.

For Pumping Plant

- f) Implement a continuous program for preventative maintenance of mechanical equipment.
- g) Provide standby pumps and alternative power supply for emergency cases.
- h) Provide sufficient capacity to handle all sewage loads.

For Treatment Plant

- i) Provide sufficient capacity to treat all sewage generated.
- j) Provide secondary treatment that will meet the effluent standards in Section III, Part B.
- k) Implement an adequate program of operation and maintenance at a treatment plant to consistently achieve the effluent standards in Section III, Part B.
- l) Implement a preventative maintenance program that requires a supply of spare parts, equipment, and alternative power supplies in cases of emergency.

2. Principal Elements of a Joint Sanitation Project

Pursuant to your instructions, we reviewed the elements proposed in the integrated project developed by SEDUE at meetings in El Paso, Tex. and Ciudad Juarez, Chih. on May 30 and 31, 1989, respectively; on June 16, 1989 in Ciudad Juarez, Chih; and on June 21 and 22, 1989 in Mexico City, and July 28, 1989 in Ciudad Juarez, Chih. which resulted in inclusion in the SEDUE project of the conditions in Point 1, Part D of this section in those elements that could be

jointly financed by both Governments. The principal elements of a jointly financed project are as follows:

- a) Construction of a riverside collector.
- b) Construction of the Coyote I collector as an extension of the riverside collector located along the Coyote Arroyo to prevent the discharge of untreated sewage into this tributary of the Rio Grande.
- c) Expansion of the sewage collection system to collect and convey to the riverside and Coyote I collectors the sewage generated in areas not currently served and which are presently discharged into the Rio Grande.
- d) Rehabilitation of the sewer system at specific points to intercept and convey to the riverside and Coyote I collectors those uncontrolled sewage flows presently discharged into the Rio Grande through existing storm drains.
- e) Construction of a pumping plant that would convey the sewage from the riverside collector to a treatment plant.
- f) Construction of a secondary treatment plant with an estimated capacity of 31 mgd (1,358 lps) located at about 7 miles (11 km) downstream of the Juarez/Lincoln International Bridge.

The precise location of principal elements a), b), e) and f) of a joint sanitation project are shown on the map attached as Exhibit 3. A detailed description of the six principal elements, their costs, and the design criteria necessary to comply with the conditions required for a jointly financed project is attached as Exhibit 4. The conceptual plans for the pumping and treatment systems of the proposed international project are shown on Exhibit 5.

We conclude, therefore that the border sanitation problem in the vicinity of Laredo, Tex./Nuevo Laredo, Tam. would be resolved if: 1) the jointly financed works, consisting of the principal elements described in Exhibit 4, are constructed and operated and maintained in a manner that meet the joint sanitation project conditions described in Point 1, Part D of this section and, 2) the governments of Mexico and of the State of Tamaulipas construct, operate and maintain those sewage works not included in the principal elements of this joint project, in a manner to meet the conditions required for the joint project mentioned in 1) above.

IV. *FINANCING OF THE INTERNATIONAL SANITATION PROJECT PROPOSED FOR NUEVO LAREDO, TAM.*

A. *Division of Construction Costs*

We consider that for the proposed international sanitation project, the design, construction, and operation and maintenance of the principal elements should be jointly financed and its cost be equally divided by the United States and the Mexican Governments. In this manner, the cost corresponding to the Government of the United States in no case shall exceed 50 percent of the costs necessary to construct the principal elements of the sanitation project estimated at a total cost of \$35 million United States dollars, which includes the costs necessary to meet the conditions described in Section III, Part D, Section 1, with the understanding that the Government of Mexico should assure the completion, at its expense, of all the principal elements proposed for this jointly financed project in the event that the cost of construction of those elements exceeds the \$35 million United States dollars. This total cost to be equally divided by the two Governments is detailed in Exhibit No. 4, which contains the unit costs for each of the principal elements proposed in this jointly financed project.

Because of the international nature of the sanitation project, the design and construction of the principal elements should be under the supervision of the International Boundary and Water Commission and under the direct control of the Mexican Section. In this manner, the Commission would be able to oversee the disbursement of funds provided by the United States Government. To the extent possible those funds would be utilized in the purchase of materials and equipment in the United States. The materials and equipment used in the jointly financed project's principal elements, should be manufactured in either the United States or Mexico.

Finally, we consider that to the extent possible, construction of the principal elements should be performed by Mexican contractors under the supervision of the Commission.

B. *Operation and Maintenance of the Proposed International Project*

We consider that with a jointly financed project between both countries, the operation and maintenance of the principal elements should also be jointly financed by the United States and Mexico. The Commission, in a subsequent agreement, should determine the manner in which the operation and maintenance costs should be divided. We suggest that such an agreement be approved prior to the start of operations of this joint project. Nevertheless, we believe the cost of the United States should correspond to the difference between the cost to

Mexico of operation and maintenance for Mexico to meet its national effluent standards established for Nuevo Laredo, Tam., and costs of operation and maintenance necessary to meet the effluent standards proposed in Section III, Part B of this report.

With a distribution of costs between the two Governments, we also consider that the daily operation and maintenance of the jointly financed principal elements, should also be under the supervision of this Commission, and under the direct control of the Mexican Section. We recommend that such supervision involve the daily presence of representatives of the Commission. This presence would be to make observations of the riverside and Coyote I collectors, insofar as the effectiveness to convey Nuevo Laredo, Tam. sewage to the treatment plant and thereby prevent the discharge of untreated sewage into the Rio Grande. Also, this supervision would be to assure the efficient operation of the pumping and treatment plants. The operation and maintenance of the international project elements should be performed in accordance with an operations and maintenance manual, and a program recommended by the Commission and approved by the two Governments.

V. CONSTRUCTION SCHEDULE FOR THE INTERNATIONAL PROJECT

For a timely and orderly solution of this border sanitation problem, it is advisable to begin construction of the expansion and rehabilitation of the sewage collection system immediately. For the remaining principal elements that make up this international jointly financed project, we consider it necessary that the construction plans to be developed by the Government of Mexico to conform with the construction time in Exhibit 6 of this report.

RECOMMENDATIONS

Based on the above considerations, we respectfully recommend the following:

1. That the Commission continue its intensive water quality monitoring in the Rio Grande preparatory to recommending to the two governments surface water quality standards that should be applied to the solution of border sanitation problems.
2. That the effluent from the proposed jointly financed wastewater treatment plant in Nuevo Laredo, Tam. meet the effluent standards described in Section III, Part B of this report, with the understanding that each country, in accordance with its legislation could establish

more restrictive limits on discharges into the Rio Grande emanating in its respective territory.

3. That for the case of Nuevo Laredo, Tam., the measures necessary for the solution of the border sanitation problem in Laredo, Tex./ Nuevo Laredo, Tam. consist of the construction of the jointly financed principal elements described in this report. The locations of principal elements Nos. a), b), e), and f) are shown on the map in Exhibit 3. A detailed description of the six principal elements, of the jointly financed project, their costs, and the design criteria necessary to comply with the conditions required for this jointly financed project, is presented in Exhibit 4.
4. That the principal elements detailed in Point 3 of these recommendations and in Exhibit 4 of this report, be jointly financed by both countries insofar as their design, construction and operation and maintenance, and be under the supervision of the Commission.
5. That the actual costs of construction of the jointly financed sanitation project be divided equally between the United States and Mexican Governments. The cost corresponding to the United States, in no case, shall exceed 50 percent of the total cost estimated at \$35 million United States dollars which is the amount required to comply with the conditions described in Section III, Part B, point 1 of this report. The costs corresponding to Mexico will be covered in Mexican pesos.
6. That, should the construction costs exceed the amount mentioned in Point 5 of these recommendations, the Government of Mexico assure completion at its expense of the construction of all the six principal elements described in Point 3 of these recommendations.
7. That to the extent possible, construction of the elements proposed in Point 3 of these recommendations, be performed by Mexican contractors under the supervision of the Commission, and that materials and equipment used in their construction be only those manufactured either in the United States or Mexico.
8. That the operation and maintenance of the principal elements mentioned in Point 3 of these recommendations, be jointly financed by the Governments of the United States and Mexico, and that the Commission reach an agreement on approvals of the division of operation and maintenance costs prior to commencement of operations of the proposed project.

9. That the design, construction and operation and maintenance of the principal elements described in Point 3 of these recommendations, be under the supervision of the Commission and under the direct control of the Mexican Section. Also, that the operation and maintenance of components of the international project be in accordance with an operations and maintenance manual and specific program recommended by the Commission and approved by both Governments.
10. That the construction of the expansion and rehabilitation of the sewage collection system works begin immediately in accordance with a construction schedule proposed by the Government of Mexico, described in Exhibit 6.
11. That the Commission recognize that Mexico has initiated works contemplated in this joint sanitation project for which Mexico should be given credit towards the financing of an international project. That to provide this credit, the engineers of the Commission, immediately but no later than 90 days after the Minute enters into force, make an evaluation of such works to determine the amount paid by Mexico in the costs associated with the expansion of the sewage collection system, rehabilitation of the collection system and the works associated with the construction of part of the riverside collector performed since 1988 and are part of this international project.
12. That the appropriation of funds by each Government be made in accordance with the construction schedule also described in Exhibit 6.
13. That the Government of Mexico require all industries discharging wastewater into facilities of the proposed jointly financed sanitation project provide an adequate pretreatment to assure efficient operation of the proposed treatment plant.

14. That before the start of the construction of the treatment plant proposed for Nuevo Laredo, Tam. the Principal Engineers jointly develop an appropriate program for monitoring of the water quality in the Rio Grande and discharges to the river for the reach of the river whose quality would be improved by the works proposed in this jointly financed project.

Respectfully Submitted,

Jose S. Valdez
Principal Engineer
U.S. Section

J. Arturo Herrera Solis
Principal Engineer
Mexican Section