

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

MINUTE NO. 270

Ciudad Juarez, Chih.
April 30, 1985

RECOMMENDATIONS FOR THE FIRST STAGE TREATMENT AND DISPOSAL
FACILITIES FOR THE SOLUTION OF THE BORDER SANITATION PROBLEM
AT SAN DIEGO, CALIFORNIA-TIJUANA, BAJA CALIFORNIA

The Commission met in the offices of the Mexican Section in Ciudad Juarez, Chihuahua, at 10:00 a.m. on April 30, 1985, to consider the border sanitation problem at San Diego, California-Tijuana, Baja California, to review the plans for the first stage treatment and disposal facilities prepared by the Secretariat of Urban Development and Ecology (SEDUE) of Mexico for solution of the problem, and to formulate recommendations to the two Governments with respect thereto.

The Commission referred to the last paragraph in Article 3 of the Water Treaty relating to the "Utilization of the Waters of the Colorado and Tijuana Rivers, and of the Rio Grande", signed February 3, 1944, which stipulates that the two Governments "agree to give preferential attention to the solution of all border sanitation problems". The Commission also referred to Recommendation No. 4 of Minute No. 261 dated September 24, 1979, which was approved by the two Governments and which stipulates, "that for each of the border sanitation problems, the Commission 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 Commission also referred to the Agreement signed by Presidents Reagan and de la Madrid on August 14, 1983 on "Cooperation for the Protection and Improvement of the Environment in the Border Area", Article 2 of which stipulates that, "the parties undertake, to the fullest extent practical, to adopt appropriate measures to prevent, reduce and eliminate sources of pollution in their respective territory which affect the border area of the other".

The Commissioners reviewed each of the border sanitation problems which need resolution and agreed that the problem in the San Diego-Tijuana area is the most urgent and requires solution as soon as possible.

The Commissioners noted that the problem in the San Diego-Tijuana area results from discharges of untreated sanitary wastewaters from the city of Tijuana northward along the natural drainage courses and in the Tijuana River, crossing the international boundary into the territory of the United States. They also noted that contributing to the problem are the northward littoral currents of the coastal waters which at certain

times of the year result in Tijuana wastewaters discharged to the ocean south of the boundary, being carried northward onto the beaches of Tijuana and south San Diego. They noted that the existing facilities for disposal of Tijuana sanitary wastewaters were constructed in 1962 for discharge of the untreated wastewaters at a point about 5.6 miles (9.0 km) south of the boundary. They examined the record of operations of the facilities which shows frequent periods, often of long duration, in which the facilities were out of operation. The Commissioners observed that in the last 20 years, the population of Tijuana has increased from about 200,000 to about 800,000 inhabitants greatly increasing the volume of sanitary wastewaters to be disposed of. They observed that for these reasons, there have been frequent and extended periods of pollution of the coastal waters and the beaches on both sides of the boundary, and of the Tijuana River and adjoining lands, creating serious hazards to the health and well-being of inhabitants in the areas, and impairing the beneficial use of these waters.

The Commissioners reviewed the Integrated Project for Potable Water and Sewerage prepared by Mexico to improve the potable water supply and distribution system, and to expand the sanitary wastewater collection network needed to serve the growing population of the city of Tijuana, and noted its relation to the solution of the border sanitation problem. They also noted that as a part of the Integrated Project Mexico will soon complete an aqueduct to supply the city of Tijuana with water from the Colorado River in an amount up to 80 million gallons per day (mgd) (3500 liters per second, lps), which will triple the current supply, and will satisfy the city's needs to near the year 2000. The Commissioners observed that the engineers of the Secretariat of Urban Development and Ecology (SEDUE), estimate that the volume of sanitary wastewaters will increase from the current average discharge of approximately 18 mgd (800 lps), to 38 mgd (1660 lps) by 1989 and to 73 mgd (3200 lps) by the year 2000. They noted that the Integrated Project will be carried out in two stages.

The Commissioners made note that SEDUE of Mexico has undertaken to resolve the Tijuana border sanitation problem for which it has prepared a plan for the facilities to treat and dispose of the sanitary wastewaters, as a part of the first stage of the Integrated Project for Potable Water and Sewerage for Tijuana, hereinafter referred to as "first stage treatment and disposal facilities". A description of the plan for the first stage treatment and disposal facilities, including copies of a location plan, a general plan, a flow diagram, a construction schedule and a related table of estimated increases in discharges of sanitary wastewaters all prepared by SEDUE is attached, and forms a part of this Minute. The Commissioners noted that the Project provides for a pumping plant, maximum operating capacity 50 mgd (2200 lps) in the northwesterly part of the city, adjoining the international boundary, to pump the sanitary wastewaters of the city westward by means of a reinforced concrete pipeline, maximum capacity 62 mgd (2700 lps), a distance of 2.7 miles (4.3 km) to a point near the coast. At that point the wastewaters are to be conveyed south first by gravity in a closed conduit and then in an

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open canal, maximum capacity 62 mgd (2700 lps), to a point about 4 miles (6.4 km) south of the boundary where the first stage treatment facilities would be built. The Project also provides for collection and pumping of the sanitary wastewaters from the "Playas de Tijuana", subdivision west of the city, to discharge those waters into the beforementioned gravity conveyance canal at a point 2.1 miles (3.4 km) north of the site for the planned treatment facilities.

The first stage treatment facilities provided in the project are designed to treat an average discharge in the range of 34 to 50 mgd (1500 to 2200 lps), and will consist of two modules, each designed to treat an average discharge in the range of 17 to 25 mgd (750 to 1100 lps). Although the facilities could treat such range of average discharges, the peak inflow to the plant with two modules will be limited by the maximum capacity of the conveyance facilities to a peak of 62 mgd (2700 lps) which corresponds to an average of 34 mgd (1500 lps), using a peak to average ratio of 1.8. Treatment in each module will be effected by means of facultative aerated and polishing lagoons. The effluent from the plant would be used partially for irrigation of nearby lands and the remaining part is to be chlorinated and conveyed about 1.6 miles (2.6 km) farther south, to a point 5.6 miles (9.0 km) south of the boundary where it will be discharged to the ocean. The characteristics for the treatment facilities plan, including the quality of effluent to be achieved, are set forth in detail in the previously mentioned attachment.

The Commissioners examined the schedule prepared by Mexico for construction of the treatment and disposal facilities and the related table of estimated increases in the discharge of sanitary wastewaters that will require treatment and disposal. The Commissioners noted, as has been observed on the ground, that the pumping plant and the pressure and gravity conveyance conduits are near completion and will be in operation by June 1985, and that construction has started on the works planned for disposal of the sanitary wastewaters from Playas de Tijuana and that these works are to be completed by March 1986. They noted that the first module of the treatment plant will be completed by December 1986. They noted that the second module of the treatment plant will be completed by the time the flow of wastewaters requiring treatment exceeds an average discharge of 25 mgd (1100 lps). Referring to the beforementioned table of discharge increases, they noted that the discharge of sanitary wastewaters requiring treatment is expected to reach the total capacity of the first stage treatment facilities by 1989, and that the Project provides that by that date the second stage facilities will be completed and in operation.

The Commissioners then considered the comments of the technical group, consisting of engineers of the Commission, the Environmental Protection Agency of the United States, and the Secretariat of Urban Development and Ecology of Mexico on the plans presented by Mexico for the first stage facilities for treatment and disposal of the sanitary wastewaters, and noted that the group expressed satisfaction with the conceptual bases and the progress of such plans. They noted that the

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plans presented did not bring out observations that could result in modifications. They also noted that the present discharges of wastewaters, taken as the bases for scheduling the construction of the facilities, should be verified by measurements in the conveyance canal once the new pumping installations are in operation.

The Commissioners agreed that the planned treatment and disposal facilities of the first stage of the Integrated Project will provide a solution to the Tijuana sanitation problem until about 1989, if designed, constructed, operated and maintained so as to prevent discharge of untreated sanitary and industrial wastewaters across the international boundary and to assure that the quality of the treated wastewaters discharged to the ocean and reaching the international boundary meet the present quality criteria of the United States and Mexico for primary contact recreation use of such waters. They referred to the construction schedule and agreed that it is essential that the planned treatment and disposal facilities corresponding to the first stage of the Integrated Project, as well as the subsequent facilities needed for the second stage, be constructed in a timely manner to assure the treatment capacity needed in advance of the rate of discharge of sanitary wastewaters collected.

Accordingly, the Commission agreed to submit for approval of the two Governments the following

RESOLUTION:

1. That Mexico proceed to construct, operate and maintain the sanitary wastewater treatment and disposal facilities which form a part of the first stage of the Integrated Project for Potable Water and Sewerage, prepared by Mexico for the city of Tijuana, Baja California, in conformance with SEDUE'S plan described herein.
2. That Mexico design, construct, operate and maintain the treatment and disposal facilities for the city of Tijuana to prevent discharges of untreated sanitary and industrial wastewaters across the international boundary in the San Diego-Tijuana area.
3. That the design and construction of the sanitary wastewater treatment and disposal facilities planned by Mexico include standby equipment to be utilized during periods of breakdowns or maintenance of the installations.
4. That Mexico operate and maintain the first stage treatment and disposal facilities so that the quality of the coastal receiving waters at the international boundary comply with the water quality criteria established for primary contact recreation uses: "the most probable number of coliform bacteria will be less than 1,000 organisms per 100 milliliter (ml), provided that not more than 20% of the total monthly samples (at least 5) exceed 1,000 per 100 ml, and that no single sample taken during a verification period of 48 hours should exceed 10,000 per 100 ml".

5. That prior to the initiation of construction, Mexico provide to the Mexican Section for the Commission's joint review and approval, copies of SEDUE'S plans and designs for construction of the first stage treatment and disposal facilities and its plans for operation and maintenance including monitoring and supervision, and that each Section inform the appropriate Agencies of its Government of any deficiency.

6. That Mexico progress in the construction of the treatment and disposal facilities in accordance with the approved plans and specifications and in such a timely manner that the installed capacity of the facilities is not exceeded by the rate of discharge of collected sanitary wastewaters.

7. That Mexico take the necessary measures to assure the timely availability of sufficient funds to carry out the construction of the treatment and disposal facilities of the first stage of the Integrated Project, in accordance with the previous paragraph and the corresponding plans and specifications.

8. That Mexico take the necessary measures to annually assure that sufficient funds are timely available to operate and maintain the first stage treatment and disposal facilities, including preventative maintenance, to enable performance of these functions in a manner that will assure insofar as possible against breakdowns or interruptions.

9. That in the event of a breakdown or interruption in the operation of the treatment and disposal facilities of the first stage, Mexico take special measures to make the immediate repairs; and that if Mexico requests through the Commission, the United States Section seek to make arrangements so that its country can provide assistance to Mexico so that the repairs can be made immediately through and under the supervision of the Commission. In the event of uncontrolled flows of Tijuana wastewaters across the boundary into the United States, Mexico will accept in its treatment and disposal system such Tijuana wastewaters as may be collected in the United States for conveyance to the Mexican system in a volume not to exceed that of the uncontrolled wastewaters.

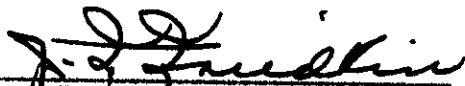
10. That in accordance with Article 2 of the 1944 Water Treaty, the construction, operation and maintenance of the wastewater treatment and disposal facilities be jointly observed by representatives of the Commission, and each Section of the Commission inform the appropriate agencies of its Government of the results of the observations.

11. That the Commission attempt to arrange as soon as possible an agreement for continued use of the emergency connection to the metropolitan system of the city of San Diego during the interim period until the first module of the treatment plant is completed, in terms acceptable to the appropriate authorities of each country.

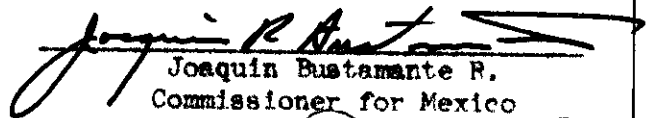
12. That Mexico initiate immediately the studies and designs of alternatives for the subsequent treatment and disposal facilities needed for the second stage of the Integrated Project with the objective of presenting the plans in a timely manner for consideration of the Commission for its approval in accordance with the aforesaid criteria that the installed capacity of the treatment facilities shall not be exceeded by the rate of discharge of sewage collected, and that during these studies, Mexico consult with the Commission through the Mexican Section, and that Mexico upon adoption of a definite plan, present it with the corresponding construction schedule, to the Commission for its approval and recommendation to the two Governments.

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


The meeting was adjourned.




J. F. Friedkin
U.S. Commissioner



Joaquin Bustamante R.
Commissioner for Mexico



M. R. Ybarra
U.S. Section Secretary



Lorenzo Padilla S. P.
Mexican Section Secretary