

DATE ISSUED: October 2, 2002

REPORT NO. 02-221

ATTENTION: Honorable Mayor and City Council
Docket of October 7, 2002

SUBJECT: Continued State of Emergency in the Tijuana River Valley - Status on
Border Sanitation Issues

SUMMARY

THIS IS AN INFORMATION ITEM ONLY. NO ACTION IS REQUIRED ON THE PART OF THE CITY COUNCIL.

BACKGROUND

The problem of sewage flows from Tijuana, Mexico, impacting the San Diego area has been ongoing for over 70 years. In the mid-1980s, Mexico attempted to resolve the problem by building new sewage collection, pumping and treatment facilities in Tijuana. While this new system alleviated the problem for the western portion of the City, the eastern portion continued to grow at a rapid rate, and sewerage collection and treatment facilities did not keep pace with the corresponding increase in sewage flow.

The increasing sewage flows in Tijuana continued to flow north through the Tijuana River into the United States (U.S.). By the mid-1980s the raw sewage flow in the Tijuana River had increased to a level of 10 to 12 million gallons per day (mgd). As these flows increased, so did the growth of vegetation in the river valley. This vegetation caused ponding of raw sewage throughout the course of the river bed. This ponding provided a breeding ground for disease-carrying mosquitos.

In 1990, the U.S. and Mexican governments determined that the permanent solution to the border sanitation problem was the construction of treatment and disposal facilities in the U.S. The plan included the construction of the International Wastewater Treatment Facilities. The facilities consisted of a 25 mgd secondary treatment plant, canyon collectors in Goat Canyon and Smuggler's Gulch to collect renegade sewage, and the South Bay Ocean Outfall. However, these facilities were not expected to be completed until 1995. In the interim period, raw sewage flows were still causing nuisance conditions and health threats to residents of the South Bay.

To alleviate this problem, in October 1990, the City Council voted to treat up to 13 mgd of raw sewage from Mexico in the Metropolitan (Metro) Sewerage System on an emergency basis, subject to capacity being available and reimbursement of treatment costs by the federal government. The City entered into a one year agreement with the International Boundary and Water Commission (IBWC) for use of the existing emergency connection pipeline between the U.S. and Mexico to convey sewage to the Metro System, and the IBWC constructed a river

diversion system in Mexico to collect renegade sewage in the Tijuana River. The flow was limited to 13 mgd, as this is the capacity of the emergency connection pipeline. The agreement for use of the emergency connection is renewed on an annual basis. The most recent agreement expires at the end of September 2002, and an extension will be brought to Council for approval in October 2002.

In January 1993, the emergency connection broke due to heavy winter storm flow. Due to the wet winter, the river diversion system was turned off and heavy rain runoff mixed with raw sewage continued to flow in the Tijuana River through the summer of 1993. This flow contaminated the river valley and closed South San Diego beaches. On August 19, 1993, the emergency connection went back into operation. However, on September 7, 1993, the City began releasing fresh water from Barrett Reservoir into the Tijuana River, in order to bring the reservoir down to a safe level in anticipation of the upcoming winter season. In order not to treat fresh water, the river diversion was again shut off. The release of fresh water mixed with raw sewage in the river continued to contaminate the river valley.

As a result, by late summer 1993 upwards of 15 mgd of raw sewage and contaminants were flowing in the Tijuana River. Due to numerous delays in constructing the international treatment facilities, which were now scheduled to be completed in 1998, the IBWC began looking at interim measures, in addition to use of the emergency connection, to handle the raw sewage flows. Some of these measures included constructing equalization basins at the treatment plant site to collect sewage overflows that could be pumped back to Mexico or constructing oxidation ponds to treat the sewage before pumping it back to Mexico.

On September 7, 1993, the City Council, citing the serious health and safety risks due to raw sewage in the Tijuana River Valley and need for the City to take emergency action to assist the federal and state agencies in designing and constructing an emergency treatment system, declared a State of Emergency in the Tijuana River Valley. By declaring this emergency, the City Council, pursuant to Sections 28 and 94 of the San Diego City Charter, also authorized the City Manager to enter into contracts and expend necessary City funds to provide assistance to federal and state agencies for the diversion, treatment, and disposal of raw sewage from Mexico. It was expected that the City would be reimbursed by the federal government for any expenditures related to the emergency. The IBWC never constructed any interim measures, and the City has never had to issue any emergency contracts. This State of Emergency has continued to be declared every two weeks.

DISCUSSION

Status of Secondary Treatment

The construction of the advanced primary portion of the International Wastewater Treatment Plant (IWTP) and the canyon collectors was completed in April 1997. The IBWC is currently operating the IWTP at 25 mgd. The South Bay Ocean Outfall (SBOO) began operations in January, 1999. This outfall currently discharges advanced primary treated wastewater from the IWTP 3.5 miles offshore at a depth of 95 feet. The IWTP is currently operating in violation of the conditions of its National Pollutant Discharge Elimination System (NPDES) permit, which

requires secondary treatment.

With construction of the IWTP and SBOO, flows of untreated sewage in the Tijuana River Valley have all but ceased, with the exception of occasional flows due to shutdowns or breaks in the Mexican sewerage system. The health and safety concerns related to raw sewage flowing unabated in the Tijuana River Valley that precipitated the declaration of the State of Emergency in 1993 are no longer a major issue. However, the IWTP is still not in compliance with its discharge permit and has had violations of permit limits for acute and chronic toxicity. This is one of the reasons that the State of Emergency has continued.

Over the past few years, several attempts have been made by the IBWC to provide secondary treatment for the IWTP. Each attempt has met with opposition, and secondary treatment has yet to be provided. As a result, two legal actions were filed. On November 16, 1999, the Surfrider Foundation filed a lawsuit against the IBWC and the City of San Diego, as joint owner of the SBOO, for violations of the Clean Water Act. The City was dismissed from this case by showing the Court and the plaintiffs that it had no discharge in the SBOO that violated the Clean Water Act and that the City was not a proper party to this action. In the second case, on February 15, 2001, the California Attorney General, on behalf of the California Regional Water Quality Control Board, San Diego Region (Regional Board), sued the IBWC for failing to treat its effluent to secondary treatment standards. In May 2001, these two lawsuits were consolidated into one.

In December 2001, the Surfrider Foundation entered into a consent decree with the IBWC which requires the IBWC to provide an independent third party to review the overall effectiveness of the existing NPDES permit Receiving Water Quality Monitoring Program for the SBOO. The consent decree also called for an independent review of the existing monitoring data to determine if the monitoring program is adequate enough to ascertain whether discharges from the IWTP are the cause of bacterial exceedances in water contact recreational areas in the South Bay, and if so, the frequency and location of exceedances. Additionally, they will consider whether discharges from other sources are causing or contributing to the exceedances, and whether oceanographic conditions and weather events cause onshore transport of effluent.

On September 11, 2002, the Regional Board approved a consent decree with the IBWC. The settlement terms require the IBWC to take one of the following actions on or before December 31, 2004:

- (a) sign a contract to construct a secondary treatment facility for the IWTP, with completion of construction no later than December 31, 2007; or
- (b) sign a contract or enter into a written agreement for another entity, either public or private, to provide secondary treatment of effluent from the IWTP with initiation of secondary treatment no later than December 31, 2007; or
- (c) cease violations of the applicable permit limits by some other means, including but not limited to, redirecting some or all of the treated effluent from the IWTP from California waters and/or instituting a partial combination of options (a) and

(b) above.

The consent decree must be signed by the Regional Board and the federal government and be entered with the court. While the proposed settlement lays out a time table for the provision of secondary treatment, it is our understanding that there are some environmental groups and community stakeholders who feel that this time schedule is not aggressive enough. There is the possibility that some environmental groups may protest the settlement.

As an interim measure, until secondary treatment is provided in 2007, IBWC staff has contacted City staff about the possibility of treating Mexican sewage in the Metro System, either at the Point Loma Wastewater Treatment Plant through use of the emergency connection or at the South Bay Water Reclamation Plant (SBWRP). A formal request from the IBWC was sent to the Mayor on September 26, 2002. City staff has concerns about the impact of Mexican sewage on the operational performance of the SBWRP. A complete analysis of the impact to the SBWRP and the Metro System as well as the risks to the City would need to be completed prior to making any decision on taking Mexican sewage. The IBWC has been informed that treatment of Mexican sewage would be subject to City Council approval and would have to be fully funded by the federal government.

Status of Public Law 106-457

In November 2000, the Tijuana River Valley Estuary and Beach Sewage Cleanup Act of 2000 (Public Law 106-457) was signed into law. This law authorized the IBWC to provide for the development of a privately funded Mexican facility, through the execution of a fee-for-services contract with the owners of such a facility, in order to provide for secondary treatment of flows from the IWTP if such treatment is not provided for at a facility in the United States. The law also called for the development of a Master Plan for water and wastewater infrastructure in Tijuana. The law required the IBWC to begin negotiations with Mexico.

On January 22, 2002, the City Council approved a resolution endorsing the development of a privately funded facility in Mexico for secondary treatment of wastewater from the IWTP, as proposed by Bajagua, a Limited Liability Company that has proposed to enter into a contract with the IBWC to provide secondary treatment.

The IBWC began discussions with Mexico on Public Law 106-457 in February 2002. There is no time line for completion of negotiations with Mexico. The last official word that the City received from the IBWC, in June 2002, was that Mexico expressed a desire to complete the potable water and wastewater Master Plan, due for completion in December 2002, and evaluate its wastewater infrastructure requirements under that planning process. Therefore, it is not expected that negotiations will conclude before the end of 2002.

Status of Funding

The IBWC has requested \$3 million in their Fiscal Year 2003 budget and \$2 million in Fiscal Year 2004 for the upgrade to secondary treatment. This money, if approved by Congress, will be used to fund preliminary studies and environmental review.

Ocean Monitoring

The IBWC has contracted with the MWWD for all regulatory mandated ocean and surf monitoring associated with the IWTP discharge through the SBOO. In addition to monitoring in U.S. waters, MWWD collects offshore monitoring samples in Mexican national waters and at three shore stations south of the border. The monitoring demonstrates that shoreline contamination is episodic and is probably not related to the operation of the outfall. The most likely sources of shoreline contamination are flows from the Tijuana River or other shore-based discharges. Occasional intrusions of the outfall waste field into the recreational water contact area designated as the Imperial Beach kelp bed have exceeded standards. These have been brief and consistent with predictions made by pre-discharge waste field dispersion models. To eliminate the potential for bacterial exceedances as a result of the discharge from the IWTP in the future, the IBWC has implemented disinfection operations at the IWTP. The ocean monitoring program continues to gather routine data on water quality that is provided to the regulators in regular reports and is available for the public.

The IWTP is currently experiencing exceedances of permit limits for acute and chronic toxicity. Studies conducted by the IBWC indicate that the primary source of toxicity is probably surfactants, which are agents used in detergents to dissolve oils and suspend particles and which are commonly present in wastewater. The current operating procedures at the IWTP are being refined to try to reduce the effluent toxicity values until secondary treatment becomes operational. The IBWC expects that secondary treatment will solve their toxicity problem.

Ocean Imaging

The South Bay area is subject to a number of potential sources of pollution. Sorting these out and determining their ultimate fate and effects can be a difficult task. The monitoring program required by the regulators in the IWTP permit was not specifically designed for that purpose. Several actions are being taken to better understand the complex matrix of sources and the potential fate of pollutants in that area. The City of Imperial Beach has secured State funding to work with Scripps Institution of Oceanography on a coastal observing system (CODAR) that will track water movements and provide information valuable to this effort. MWWD will be working with the Scripps team to provide them with the results of the ocean monitoring so that they will have the necessary water quality information to input to their system. The County of San Diego will also be supplying beach water quality data. At the same time MWWD is working cooperatively with the IBWC and the Regional Water Quality Control Board on a project to acquire remote images from satellites and airplane overflights in an effort to correlate these with ocean monitoring results. The objective is to see if this remote imaging technology can contribute to a better understanding of the sources of pollution. This technology has a proven track record in finding oil spills and in the fishing industry. The remote imaging work will also extend up the Tijuana River to look for a better method of detecting land runoff that can impact the river, estuary and ocean. The remote imaging and CODAR teams will coordinate as the projects go forward to ensure that the best tools possible have been developed to track the sources of pollution.

CONCLUSION

Over the last 10 years, progress has been made in resolving the border sanitation problem. Although the final solution, secondary treatment, is not in place, the following successes should be recognized.

1. The renegade sewage flows that plagued the Tijuana River Valley in the early 1990s have all but ceased with the construction of the IWTP and SBOO, and the health and safety concerns that originally led to the declaration of a State of Emergency no longer exist.
2. Public Law 106-457 was passed in 2000, which allows for the IBWC to look at private-public partnerships as an option for secondary treatment.
3. Ocean imaging, using satellite imaging, is being explored to track waste fields.

While we celebrate the successes, we must still continue to work diligently with the federal government to ensure that the effluent from the IWTP is treated to secondary treatment standards in compliance with its NPDES permit. Specific areas of concern include establishing a firm schedule for completion of secondary treatment and authorization of adequate funding for the implementation of secondary treatment. The proposed consent decree between the RWQCB and the IBWC establishes a time line for construction of secondary treatment; however, the length of that time line is the subject of some dispute and may be challenged.

In order to ensure long term success, resolution of the border sanitation problem must continue to be a high priority, until adequate facilities are constructed to handle all of Tijuana's sewerage needs. The continued State of Emergency is one such vehicle to maintain focus on the border situation.

Respectfully submitted,

Scott Tulloch
Metropolitan Wastewater Director

Approved: Richard Mendes
Utilities General Manager

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