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Fearing Attack, Blue Plains Ceases Toxic Chemical Use

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As flames rose from the Pentagon and another plane neared Washington, managers of the region's largest sewage treatment plant had a chilling realization: Their facility across the Potomac River housed 10 rail cars of toxic chemicals, and the rupture of even one would kill thousands within minutes.

Officials at the Blue Plains Wastewater Treatment Plant in Southwest Washington doubled in-house security within hours of the terrorist attack Sept. 11 and added round-the-clock police and U.S. Coast Guard patrols along the river. The next morning, engineers asked: How can we get rid of the stock tomorrow?

Over the past eight weeks, authorities have quietly removed up to 900 tons of liquid chlorine and sulfur dioxide, moving tanker cars at night under guard as they race to secure one of the Washington region's biggest toxic chemical stockpiles. The plant, four miles from the U.S. Capitol, has accelerated a \$20 million, three-year construction program and in the next two weeks plans to convert to a safer disinfectant delivered through temporary pipes and filters.

"We had our own little Manhattan Project over here," Jerry N. Johnson, general manager of the D.C. Water and Sewer Authority, which runs the plant, said this week. "We decided it was unacceptable to keep

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Fearing Attack, D.C. Plant Abandons Toxic Chemicals

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this material here any longer."

The overhaul is not unique to Washington. Major utilities nationwide are adopting similar security measures, rethinking a low-key service that touches nearly every U.S. home and business and one that almost universally relies on cheap, powerful chemicals to treat raw sewage. The security of those stockpiles—which rank among the biggest chemical sites in many communities—has become an expensive concern.

"Until about a month ago, wastewater treatment plants . . . received little attention as security threats were assessed," Patrick I. Karney, spokesman for the Association of Metropolitan Sewerage Agencies and director of Cincinnati's sewer authority, told members of Congress in October. Now, he said, they are "possible targets for terrorist activities."

The emergency changes are driven by fear of an attack against the stockpile. Chlorine and sulfur dioxide are so volatile that the rupture of a full 90-ton tanker could spread a lethal cloud, which could kill people within 10 miles, Johnson said. At Blue Plains, depending on the direction of the wind, such a swath could cover downtown Washington, Anacostia, Reagan National Airport and Alexandria.

Roughly half of U.S. utilities are abandoning the use of liquid chlorine—a cleanser that is so deadly that Germany used it as a chemical weapon in World War I—with increased security costs a driving factor, said Bruce Long, vice president at Black & Veatch, an engineering firm based in Kansas City, Mo. Big city utilities have asked Congress for \$155 million to assess new vulnerabilities, and next week, Senate Democrats will propose spending \$2.1 billion for security at water and wastewater plants as part of a broader economic stimulus package.

Federal investigators have warned that terrorist networks may be targeting hazardous materials in trucks or in stockpiles. A southwest Tennessee pilot reported that Mohamed Atta, suspected of being the ringleader of the Sept. 11 hijackings, asked about a chemical plant and water reservoir that he flew over this year in a light airplane.

The District's plant operators said they have been convinced that the previously dismissed risk of a catastrophic chemical release had become a pressing concern.

"If we weren't in the middle of a targeted city, the nation's capital, we might not have taken these extraordinary measures," said Johnson, who discussed the changes only as they neared completion.

James E. Ivey, president of the plant workers' union, said, "You understand that if they had hit those tankers, we'd be talking about more than 6,000 people killed in this area."



FILE PHOTO BY SUSAN BIDDLE—THE WASHINGTON POST

"If we weren't in the middle of a targeted city . . . we might not have taken these extraordinary measures," said Jerry N. Johnson, general manager of the District's Water and Sewer Authority.

Utility officials have long known, and watchdog groups have warned, that a worst-case chlorine release at Blue Plains could harm residents up to 15 miles away, a radius in which 2.7 million people live. Chlorine, an amber liquid used to purify wastewater before it is neutralized by sulfur dioxide and discharged, quickly turns into a gas if released into the atmosphere and can expand as much as 460 times, forming a lethal cloud that is heavier than air.

Immediately after the Sept. 11 attacks, plant operators, consultants and emergency response officials began draining or moving supplies and discussing dispersing cars to more secure sites, such as Bolling Air Force Base. Managers will not say where the chemicals have been moved to.

Blue Plains officials asked if federal regulators would permit them to stop disinfecting the region's 370 million gallons a day of raw sewage so they could remove chemical supplies.

Senior Environmental Protection Agency officials seriously considered the request but ultimately discouraged the authority, which serves the District and parts of Fairfax, Loudoun, Montgomery and

Prince George's counties. The EPA said that a waiver could take months and lead to public outcry.

"Security interests are our foremost concern," said Jon Capacasa, Region III deputy director, "but it would not be a simple matter."

Instead EPA officials proposed "hardening" storage facilities by adding concrete barricades, garages or buried tanks, steps that authority engineers decided were unworkable or would take too long.

By late September, managers could wait no more. Since 1991, military neighbors and public interest groups had pushed the District authority to switch from liquid chlorine to the safer sodium hypochlorite bleach, which does not vaporize into a poisonous cloud. After years of planning, the plant was in the middle of a permanent chlorine conversion project, which remains on schedule to be done by December 2002.

The authority halted that project and scoured the country for equipment to rig the plant for a speedier, temporary solution. In one instance, engineers grabbed custom-fit tanks that a utility in Winchester, Va., had rejected because of cosmetic imperfections.

"Luckyly, ugly didn't bother us," Johnson said.

The new chlorine bleach works as well as liquid chlorine, although more of it is needed to disinfect the same amount of sewage. The au-



FILE PHOTO BY ROBERT A. REEDER—THE WASHINGTON POST

Security at and near the Blue Plains treatment plant, shown in this 1997 photo, has increased since Sept. 11.

thority's chemical budget will increase from \$750,000 to \$1.25 million. Sodium hypochlorite also cannot control odors as did the liquid chlorine, which plant operators stopped using for that purpose Oct. 22 to reduce storage needs.

A spokesman said that the cost of the temporary changes—nearly \$1 million—will be absorbed in this year's budget, although the system had previously planned a price increase next year to pay for wider capital improvements.

Security dominated talk at a utilities conference in San Francisco last month, said Diane VanDe Hei, executive director of the American Municipal Water Association.

Plants in Chicago and Dallas have beefed up security on the ground and in the water, said Ken Kirk, executive director of the metropolitan sewerage association, and several large cities are considering accelerating bleach conversion.

Emergency planners have been heavily focused on biological or chemical contamination of drinking water. But water sources for big city systems turn out to be difficult targets, because they require large amounts of contaminants to be compromised and because utilities already test for many chemical and biological agents, EPA officials said.

Plants themselves and their supplies are less well guarded, which managers are rectifying but are loath to discuss. The Bush administration has proposed allocating \$34.5 million to assess vulnerabilities, while the FBI and Sandia National Laboratories are helping water installations find weaknesses and communicate threats more quickly.

Also, water companies have stripped Internet sites of plant details as a security precaution. The federal government has removed information about 15,000 chemical storage sites and emergency response plans from the Web, arousing concerns that information is being withheld from communities at risk.

"Before September 11th . . . you would have looked at vandalism, you would have looked at breaking-and-entering as more of a risk to you than a plane falling out of the sky," VanDe Hei said. "The assessment is different today."