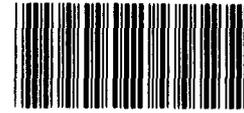


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Opportunities to Better Manage  
and Control Nonindustrial  
Wastewater Pollution

Statement of  
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Before the  
Committee on Environment and Public Works  
House of Representatives



Mr. Chairman and Members of the Committee:

We are pleased to be here today to discuss opportunities to better manage and control nonindustrial wastewater pollution from households and commercial establishments. Our testimony is based on our ongoing review of this issue, which we are conducting at your request. We plan to issue our report to you later this year. Specifically, you asked us to examine the (1) range, seriousness, and sources of pollutants found in nonindustrial wastewater; (2) strategies and programs developed by state and local governments to better manage and control these pollutants; and (3) federal options to encourage or require better management and control of these pollutants.

In summary, Mr. Chairman, although determining the appropriate level of federal involvement depends largely on efforts to quantify the seriousness of problems associated with nonindustrial wastewater, our preliminary information suggests that some additional federal efforts are warranted and could be implemented now. Information we gathered to date indicates:

-- Households and commercial establishments discharge a number of pollutants, many of which are toxic and are associated with environmental and health problems. Household sources of these pollutants include consumer products such as detergents, toilet bowl cleaners, drain openers, and motor oil. Commercial sources of the pollutants include

photoprocessors, dry cleaners, and car washes. Although Environmental Protection Agency (EPA) officials agree that these discharges may be significant, the few studies that have focused on this issue suggest that the nature and extent of the problem can vary by location.

- Some states and localities have established programs to reduce nonindustrial pollutants from entering treatment plants. These programs include (1) identifying sources of problems and requiring dischargers to remove harmful pollutants from their wastewater; (2) providing consumers with information on problems associated with certain household products, proper disposal methods, and/or alternatives to these products; and (3) banning substances linked to water quality degradation.
  
- EPA's efforts to address problems associated with nonindustrial wastewater pollution have been limited primarily to providing information and guidance to consumers, states, and localities.
  
- Federal options are available to better manage and control nonindustrial wastewater. These options include (1) encouraging or requiring treatment plants to gather more data about the extent and seriousness of the problem; (2) providing this information and methods to address the

problem to states, localities, and the public; (3) encouraging or requiring treatment plants to institute programs that reduce levels of harmful pollutants entering sewer systems; (4) supporting a voluntary national product labeling program that would alert consumers to environmental risks associated with household products; and (5) banning substances that pose unreasonable risks to human health or the environment.

Mr. Chairman, before I discuss the points outlined above, I would like to provide some background information on EPA programs that control discharges of pollutants into the nation's waters.

#### BACKGROUND

EPA implements many of its water quality programs through facility permits that limit pollutant levels. Under EPA's National Pollutants Discharge Elimination System (NPDES) Program, for example, limits are placed on the pollutants sewage treatment plants and industries discharge directly into the nation's waters. Under the National Pretreatment Program, limits are placed on pollutants that certain industrial facilities discharge indirectly into these waters through sewers that service municipal wastewater treatment facilities. Further, treatment plants can set local discharge limits for industries and commercial establishments otherwise not subject to pretreatment requirements. However,

despite the existence of the Pretreatment Program, many industrial facilities, most commercial establishments, and virtually all households discharge untreated wastes into sewers. Because wastewater treatment plants are designed primarily to treat sewage, many of these pollutants simply pass through the plants into receiving waters.

NONINDUSTRIAL WASTEWATER  
CONTAINS HAZARDOUS SUBSTANCES  
BUT EXTENT OF PROBLEM UNKNOWN

Despite some of the gains realized through EPA's Pretreatment Program, studies indicate that industrial facilities continue to be the most significant source of hazardous pollutants discharged into sewer systems. Nonetheless, they also indicate that household and commercial sources are major contributors of some hazardous pollutants as well. For example, the Office of Technology Assessment estimates that household wastewater alone accounts for 15 percent of the toxic pollutants that enter treatment plants. Further, as the Pretreatment Program becomes more effective in reducing industrial sources of wastewater pollution, the relative contribution of nonindustrial pollutants will increase. According to EPA, after certain industries reduce the pollutants they discharge into sewer systems, commercial establishments and households will account for nearly two-thirds of the hazardous metals discharged to treatment plants. Therefore, efforts to

further reduce these pollutants will have to take nonindustrial sources into account.

Studies conducted by individual treatment plants have also documented that nonindustrial wastewater is a significant source of hazardous pollutants discharged to their particular plants. For example, a Seattle, Washington, treatment plant determined that about 20 percent of the arsenic entering the plant originated from household laundry detergents. Similarly, a Palo Alto, California, treatment plant concluded that up to 80 percent of the silver entering the plant came from nonindustrial sources, including commercial and home photo developers, and dental labs. Other studies concluded that dry cleaners, car washes, and a wide variety of household products add to levels of hazardous pollutants entering treatment plants, including lead, mercury, phosphorous, oil, and benzene.

These and other pollutants found in nonindustrial wastewater have been linked to serious environmental and health problems; they can also adversely affect treatment plant operations and worker safety. For example, heavy metals, such as lead and mercury, are associated with brain and kidney damage. Phosphates can impair water quality by stimulating excessive algae growth, which in turn, can deplete oxygen levels in waters, ultimately killing the fish. In addition, some of the pollutants found in nonindustrial wastewater can inhibit wastewater treatment processes, corrode

sewer pipes, and cause illnesses among treatment plant workers. Flammable household hazardous wastes are even known to have caused explosions in sewer systems.

Although available information suggests that nonindustrial wastewater may pose serious problems, most studies have thus far focused primarily on industrial wastewater and only briefly touched upon nonindustrial sources. Further, the relatively few studies that specifically examined nonindustrial wastewater suggest that problems may be somewhat localized and/or vary by location. EPA officials acknowledged that more needs to be known about the range, seriousness, and sources of pollutants found in nonindustrial wastewater but stated that other pressing work continues to prevent the agency from finding out more about these pollutants.

STATE AND LOCAL PROGRAMS  
TO MANAGE AND CONTROL  
NONINDUSTRIAL WASTEWATER

Concerned about the effects of toxic wastewater on both water quality and on sewage sludge,<sup>1</sup> some states and localities have established programs to better manage and control pollutants found in nonindustrial wastewater. For example, after Palo Alto treatment plant officials determined that the wastewater the plant

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<sup>1</sup>Sewage sludge is generated as a by-product of the wastewater treatment process. Sludge can contain heavy metals and organic compounds that can contribute to serious human health problems, including cancer, kidney and liver damage, and heart failure.

received from nonindustrial sources threatened aquatic life and habitats in the South San Francisco Bay, the plant imposed local discharge limits on commercial establishments' releases of silver into the sewer systems. Under this program, photoprocessors, dentists, and others are required to drastically reduce or eliminate their discharges of silver into the city's sewers. According to a plant study, this program will save the city tens of millions of dollars that would otherwise have to be spent on treatment processes to remove the silver.

After Seattle officials determined that the city's nonindustrial wastewater contained high levels of arsenic and other pollutants that were contaminating its sludge, the city established a program (as part of a larger statewide program to manage hazardous waste) to evaluate environmental and health risks associated with various consumer products. To date, about 50 products have been evaluated, and the city plans to make this information available to consumers so that they can take environmental considerations into account in their purchasing decisions.

Some states and localities have even banned the use of certain chemicals after determining that they pose significant risks to the environment. For example, Pennsylvania, Maryland, Virginia, and the District of Columbia have banned the use of phosphates in laundry detergents and other products because of growing concerns

about phosphates' adverse effects on the Chesapeake Bay's water quality. In doing so, treatment plants have saved millions of dollars by eliminating the need to treat this source of phosphorous. For example, Washington, D.C.'s, phosphate ban saves the city an estimated \$6.5 million annually in operation and maintenance costs.

States have also established a wide variety of programs to more broadly reduce the levels of pollutants entering the environment. Although these programs were not designed to specifically or solely address water quality concerns, they can help lower the level of pollutants found in nonindustrial wastewater. For example, in 1990 alone, over 800 household hazardous waste collection programs were held in 48 states; paints, pesticides, and other hazardous wastes were collected and properly disposed of or recycled. Although these programs are primarily designed to divert these wastes from being dumped into landfills, several treatment plants have sponsored such programs because they also reduce the amount of wastes that would otherwise reach the plants after being dumped down drains or flushed down toilets.

Similarly, a number of localities have established used oil collection and recycling programs. These programs are designed to reduce the 267,000,000 gallons of oil improperly disposed of annually. EPA estimates that about 4,000,000 gallons of this amount is dumped into sewers.

FEDERAL OPTIONS TO  
BETTER MANAGE AND CONTROL  
NONINDUSTRIAL WASTEWATER

Because EPA studies indicate that industrial facilities continue to be the most significant source of hazardous pollutants discharged into sewer systems, the agency has focused its attention on industrial rather than nonindustrial wastewater pollution. EPA's efforts to better manage and control nonindustrial wastewater have been primarily limited to providing information and guidance to consumers, states, and localities. For example, EPA has published a pamphlet for wastewater treatment plants that encourages them to establish household hazardous waste collection programs.

Beyond these modest initial steps, EPA, treatment plant, and environmental officials have acknowledged that EPA could be doing more to manage and control nonindustrial wastewater. Options available to EPA range from voluntary, relatively low-cost programs that could be readily implemented in the near future, to mandatory and more costly options. For example, EPA could

- encourage or require treatment plants to gather more data about the extent and seriousness of problems associated with nonindustrial wastewater;

- provide this information and methods to address the problem to states, localities, and the public;
- encourage or require treatment plants to institute programs that reduce levels of harmful pollutants entering sewer systems;
- support a voluntary national product labeling program that would alert consumers to environmental risks associated with household products; and
- ban substances that pose unreasonable risks to human health or the environment.

Because the few studies that have focused on nonindustrial wastewater suggest that the nature and extent of the problem may vary by location, treatment plants could identify the sources and magnitude of problems associated with their nonindustrial wastewater. These studies could be made available to other treatment plants as part of a clearinghouse effort. This clearinghouse could also share information on programs designed by states and localities to better manage and control nonindustrial wastewater, such as Seattle's and Palo Alto's efforts. This would allow the plants to benefit from the experiences of others and potentially reduce program start-up time and costs.

If the studies conducted by the treatment plants indicate that pollution levels are significant enough to warrant increased control and management of nonindustrial wastewater, individual treatment plants could implement programs to reduce these levels. In fact, one EPA regional office is currently considering requiring wastewater treatment plants to institute public education programs to alert the public to the environmental hazards of dumping used motor oil, paint, and other potentially harmful chemicals down sewer drains. Other programs could include the types of efforts some plants have already instituted and we have mentioned here. Although EPA officials acknowledged the merits of these types of programs, officials with EPA's Office of General Counsel told us they are not certain if EPA has the authority to require treatment plants to establish these programs unless they are needed to help meet permit discharge limits or avoid serious water quality problems.

EPA could also support a voluntary national product labeling program that would alert consumers to the relative environmental risks associated with a wide range of consumer products. These so-called "Green Label" programs have been implemented in West Germany, Japan, and Canada. However, EPA and manufacturers have raised concerns about the difficulty of determining which products pose greater or lesser environmental risks, given the number of factors that need to be taken into account about how the product is manufactured, used, and disposed of. In light of these problems,

EPA is currently developing a methodology for analyzing products' environmental impacts throughout their life-cycle. It plans to share the results with manufacturers, public interest groups, and academia. If this effort yields a feasible methodology that adequately addresses EPA's and industry's concerns, a voluntary "Green Label" program could be instituted in this nation. In addition to addressing some of the problems associated with nonindustrial wastewater, a labeling program could also yield environmental benefits for the nation's land, air, and natural resources.

Finally, if the studies conducted by the treatment plants indicate, and further analyses confirm, that certain substances are posing unreasonable environmental or health risks nationwide, EPA could use its authority under the Toxic Substances Control Act (TSCA) to further control these pollutants. Under this act, if EPA determines that a given substance poses unreasonable risks to human health or the environment, it has the authority to (1) require manufacturers of the substance to place labels on the product that advises users of its risks and how it should be disposed of; (2) mandate that a substance be manufactured only in limited concentrations; or (3) ban the manufacture and distribution of a substance altogether. The level of control warranted would depend largely on what the studies and analyses reveal about the level of risks associated with the substances. Although EPA has used this authority in only a limited number of cases, EPA officials

acknowledge that TSCA could be used more in the future and might be an effective tool to address problems associated with nonindustrial wastewater.

To a large extent, the merits of these and other options depend on what further studies reveal about the severity of problems associated with nonindustrial wastewater.

### CONCLUSIONS

In conclusion, Mr. Chairman, although more needs to be known about the sources and severity of problems associated with nonindustrial wastewater, EPA officials acknowledge, and several studies confirm, that this wastewater can pose threats to the environment, public health and safety, and the operations of treatment plants. Recognizing these and other environmental problems, several states and localities have instituted programs that, either directly or indirectly, improve the quality of nonindustrial wastewater. Although the nature and extent of the problem may vary somewhat by location, available information suggests that the problem warrants increased federal attention. There are a wide variety of options available to EPA to better control and manage this wastewater. While we will be reporting on the appropriateness of these options in the near future, our work to date suggests that some could be implemented in the near term. These would include encouraging or requiring treatment plants to

gather more data about the extent and seriousness of the problem and to share this data with EPA. EPA, in turn, could provide this information and methods to address the problem to states, localities, and the public. The relative merits of other options will not be fully clear until more is known about the scope and severity of the environmental and health risks associated with nonindustrial wastewater.

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Mr. Chairman, this concludes my prepared statement. I would be happy to respond to any questions at this time.