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OPPORTUNITIES FOR LOCAL GOVERNMENTS TO PROMOTE POLLUTION PREVENTION:

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ASSESSMENT AND TECHNOLOGY TRANSFER TELECONFERENCE.

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Introduction

The theme for the 20th anniversary of Earth Day on April 22, 1990 is: Think Globally-Act Locally. Implicit in this theme, is that to deal with the millions of sources of waste and pollution is going to demand a bottoms up, rather than a top down approach and because most of our activities are carried out locally, local governments are in an ideal situation to help solve major environmental problems.

Compared with other levels of government, cities, counties and special districts are not only closest to the problem, but are also closest to the solution. And in the final analysis, it is the local community that has the most to gain from the health of the local economy, the environment, and its citizens.

There are a number of significant benefits in implementing a "prevention" approach to solving local environmental problems. Some of these benefits include:

1. Reducing chemical risks to the community and the environment;
2. Encouraging industrial efficiency that aim at strenghtening the local economy;
3. Decreasing worker exposure, and;
4. Reducing the need for future waste management facilities, including landfills, sewage treatment plants , hazardous waste treatment facilities and incinerators.

Recognizing these benefits, local governments all around the country are developing wide ranges of pollution prevention projects. These projects range from setting up used oil collection and recycling programs to using cleaner fuels in fleet services. Some local governments have even adopted ordinances requiring industry to develop waste minimization plans and others have implemented municipal auditing programs to ensure compliance and identify pollution prevention opportunities. Over 100 cities in the United States have banned the use of polystyrene foam packaging manufactured with ozone depleting chemicals. Also many cities and counties are developing ride-share ordinances and other energy conservation policies aimed at pollution prevention. (1)

In fact, it is both state and local governments that are leading the nation in acheiving pollution prevention through the use and promotion of clean technologies and waste minimization pactices.

Solid and Hazardous Waste

Lets look at some specific examples:

Municipal solid waste handling and disposal has long been the responsibility of local governemnts. As landfills begin to fill up and waste management costs rise, local governments are quickly moving towards implementing an integrated approach to solid waste management. This integrated approach adopts the pollution prevention hierarchy, focusing first on reducing waste at the source, second, environmentally sound recycling, and last incineration and landfill.

Already there are over 8,000 municipal source reduction and recycling projects underway which are aimed at reducing the volume of solid waste generated in the United States. Some Cities such as Seattle, Washington and San Jose, California have already achieved impressive, 25% recycling goals. (2)

Another area of opportunity for local involvement is in the area of hazardous wastes. In California for example, local governments have been required to share in the responsibility for managing hazardous waste through a Health and Safety Code Law, known as the Tanner Act. This law requires that counties plan for the siting of hazardous waste management facilities needed to manage those hazardous wastes produced within their jurisdictions. In order to reduce the need to site new facilities, many counties and cities in California have initiated hazardous waste minimization educational and technical assistance programs. In addition, over 60 local governments have passed resolutions declaring it to be their policy to encourage and promote waste minimization in their communities. (3)

Ventura County, Calif. has pioneered local government involvement in the area of hazardous waste management and minimization and has developed guidelines for local government on waste minimization. In their program, the County RCRA inspectors promote waste minimization through education efforts, through on-site technical assistance, and through implementing an ordinance that requires new companies doing business in Ventura County to develop waste minimization programs using the guidelines outlined in EPA's Guidance on Waste Minimization Plans published in June 13, 1989 Federal Register. The results of this local program are impressive: Within a two year period, the county's 75 major waste generators reduced the amount of hazardous waste shipped off-site by 70% through source reduction, recycling and on-site treatment methods.(4)

Today many other California counties including Santa Clara, Riverside, Orange, San Bernardino, San Francisco and the City of Los Angeles, are all providing waste minimization and pollution prevention information to local industry and businesses.

In addition, many of these local communities have found creative ways to fund their programs. For example, Riverside County funds their waste minimization and household hazardous waste collection program through a 25 cent surcharge on the solid waste tipping fee at the landfills. (5)

Industrial Wastewater and POTW's

Municipal industrial wastewater programs provide local governments and sanitation districts with another important opportunity to promote pollution prevention. Through the enforcement of federal and local wastewater discharge limits, the Publicly Owned Treatment Works (POTW), have made significant strides in protecting the nation's waterways from hazardous pollutants. Today however, there are increasing regulatory pressures and other problems facing POTW's in respect to their own ability to meet Federal Clean Air Act and Clean Water Act requirements.

Consider the following facts:

An EPA study shows that 92 million kilograms of hazardous pollutants enter the nation's 1500 POTW's each year from industrial, residential, and commercial sources. Of this, 43-60% of the toxic pollutants biodegrade, 14-16% concentrate in sewage sludge, 8-18% pass through, unaltered, to receiving waters and 14-25% of the hazardous materials volatilize into the air. This is equivalent to 12-23 million kilograms of volatile pollutants entering the atmosphere each year from POTW's. (6)

In another EPA study, it was found that 37% of all toxic industrial compounds passed through sewage treatment facilities potentially threatening over 529 drinking water plants located downstream of POTW's effluent discharge pipes. (7)

As a result of these problems, Federal and State regulations regarding emission standards, discharge limits and sludge handling practices are tightening up. In addition, EPA Administrator Reilly's policy of "enforcement first" has already resulted in 61 municipalities being cited for failing to regulate industrial discharges to POTW's since June 1989.

The proposed Clean Air Act Amendments also target POTWs as major emission sources for toxic air contaminants and if regulated POTW compliance costs are estimated to be between \$25million and \$18 billion. (8)

The facts have serious implications for POTW's, however many POTW operators as well as the industrial discharger, are now realizing enormous benefits from the use of clean technologies and waste minimization practices that can reduce industrial waste loadings to the sewer.

Most firms today comply with the discharge limits by installing on-site, end-of-pipe pretreatment systems. Many of these systems lower the concentration of toxic contaminants through aeration or concentrate the contaminants into a sludge destined for a hazardous waste landfill. In effect, these pre-treatment systems simply shift pollutants with no real net in toxics reduction.

It is for this reason that source reduction and closed loop recycling practices are preferred over treatment. Also studies have shown that these practices can actually benefit the industrial discharger in a number of ways including:

1. helping the company meet their discharge limits;
2. lowering their sewer charges;
3. reducing cost of on site treatment, and;
4. decreasing the volume of sludge produced on site.

So in effect, both POTW and the industrial discharger benefit from pollution prevention practices.

It also makes good sense for POTW's and industrial waste inspectors to promote pollution prevention. They often have the most contact with the regulated community and typically, the inspectors have an extensive understanding of industrial process operations; a key element to identifying pollution prevention opportunities.

What are some POTW's doing?

Inspectors working in seven of North Carolinas' POTWs provide waste minimization technical assistance to area industries as a routine part of their compliance inspections. The Neuse River Treatment Plant for example, owned and operated by the City Of Raleigh, recommends alternative compounds and processes and encourages in-process recycling to reduce industrial waste loading. The results have been impressive and have benefitted both POTW and industry. (9)

One example of their success is in working with a milk testing facility that had been using potassium dichromate as a preservative in milk samples. As a result of using this compound, The company discharged unacceptable levels of chromic wastes into the sewer. The Raleigh POTW staff worked with the firm to find an alternative, non-toxic, organic preservative to replace the dichromate. (10)

The POTW in Suffolk County, New York, requires businesses to identify waste minimization methods when they apply for a wastewater discharge permit. In several cases the Suffolk County sanitary engineers have suggested techniques and technologies that helped reduce the firms' wastewater discharge to a point where a permit was no longer necessary.(11)

In California, Los Angeles and Orange County Sanitation Districts offer waste minimization consultations to their permitted dischargers and are critically evaluating their own air emissions and sludge quality. The cities of Hayward, Vacaville and San Leandro in California all provide information and tips on pollution prevention to their dischargers.

U.S. EPA is endorsing such activity and has published Guidelines on the Development and Implementation of Local Discharge Limits Under the Pretreatment Program. (12)

In these guidelines, EPA recommends that "local discharge limits be "proactive " rather than "reactive", and the guidelines recommend that POTW staff discuss the feasibility of waste minimization options such as chemical substitution, process modification, and waste segregation with their permit holders .

The EPA Guidelines also recommend that when developing local discharge limits five issues should be addressed including:

1. POTW sludge quality,
2. receiving water quality,
3. plant operations and protection,
4. air emissions
5. worker health

The best way to address each of these is through pollution prevention.

Pollution Prevention Assessments and Auditing

Finally, I would like to encourage local governments to establish their own in-house pollution prevention programs through the use of environmental auditing and waste minimization assessments.

Industry has used these tools over the past few years and have found them to be very beneficial in compliance strategies as well as in identifying pollution prevention opportunities. Municipalities can also use these tools to help enable local elected officials and managers obtain a better picture of the environmental consequences, compliance responsibilities, potential liabilities and prevention options associated with municipal operations.

Conclusion

What does it take to get a program started in your community?

1. Top management commitment by local elected officials and top managers;
2. An implementation strategy, goals and objectives, and;
3. Information and training.

To assist in the development of local government programs, there are numerous informational resources available through EPA's Pollution Prevention Information Clearinghouse (PPIC), EPA Regional offices and many of the State Pollution Prevention Programs. Several of these resources are cited as references in this paper.

In closing, much has been accomplished in the way of environmental progress over the past few years. Obviously, much more needs to be done. We at EPA cannot do it alone, we must rely on the environmental professionals at all levels of government and industry. We must obtain the interest and support of elected officials, universities and consumers as well.

The task ahead of us is not easy, but the challenge is there, and with the creative enthusiasm of all of you and the commitment of our Federal, State and local leaders, we will be able to create a predictable pollution prevention effort that can guarantee public and environmental health protection.

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