CITY OF OAKLAND
AGENDA REPORT

TO: Office of the City Administrator
ATTN: Deborah Edgerly
FROM: Public Works Agency
DATE: January 24, 2006

RE: **Informational Report On Implementation Of The Resolution Establishing A Policy On Dioxin**

SUMMARY
This is an informational report on activities undertaken by staff in implementing Resolution 74773 C.M.S., "Resolution for the City of Oakland Establishing a Regional Task Force and Policy on Dioxin, Public Health and the Environment" (Dioxin Resolution – see attached). The intent of the Dioxin Resolution, passed by the City Council on February 2, 1999, is to "encourage elimination of dioxin emissions wherever possible." The Dioxin Resolution helps meet the City Council goal of creating clean and livable communities by improving the quality of the environment. The Public Safety Committee last heard a report on this subject on January 28, 2003.

FISCAL IMPACTS
Since this report is informational only, no fiscal impacts are included. There was no specific funding for staff activities associated with the Dioxin Resolution.

BACKGROUND
"Dioxins" refers to a group of chemical compounds that share certain similar chemical structures and biological characteristics. Several hundred of these toxic compounds exist. Dioxins are released into the air from combustion processes such as commercial or municipal waste incineration and from burning fuels (like diesel, wood, coal or oil). Chlorine bleaching of pulp and paper, certain types of chemical manufacturing and processing, and other industrial processes all can create small quantities of dioxins. Cigarette smoke also contains small amounts of dioxins.

The Dioxin Resolution directed City staff to work with other government agencies in the Bay Area to convene a regional task force on dioxin. To meet this directive, the City of Oakland participated in the creation of the Bay Area Dioxin Project in the year 2000, under the auspices of the Association of Bay Area Governments (ABAG). The purpose of the Bay Area Dioxin Project was to develop dioxin pollution prevention strategies to promote the use of products and processes that reduce the formation of dioxin. The Bay Area Dioxin Project completed its work and disbanded in December 2003. In the years since the Dioxin Resolution was passed, the City has revised purchasing specifications to require chlorine-free paper, eliminated the use of polyvinyl chloride (PVC) pipe in city sewer projects, and converted or replaced many diesel-fueled City vehicles to alternative-fueled vehicles.

KEY ISSUES AND IMPACTS

Scientists and others are concerned about dioxins because studies have shown that exposure to dioxins may cause a number of adverse health effects, including skin disorders, liver damage, reproductive and development disorders, and some cancers.

PROGRAM DESCRIPTION

The following are the highlights of staff work to implement the Dioxin Resolution:

Bay Area Air Quality Management District Grants

Between 2000 and 2002, the City received three grants from the Bay Area Air Quality Management District (BAAQMD) for the purchase of compressed natural gas garbage trucks to replace diesel garbage trucks in the fleet of Waste Management of Alameda County (WMAC). These grants totaled $1,110,812 for the replacement of a total of twenty-seven diesel garbage trucks with the clean-fuel trucks. In each case, the diesel trucks were dismantled and scrapped.

Bay Area Dioxin Project

In 2001, the Dioxin Project Task Force agreed to prepare workplans for four dioxin pollution-prevention pilot projects and a public outreach workshop: (1) alternatives to diesel; (2) purchasing policies for dioxin-free paper products; (3) purchasing policies for PVC-alternative building materials; (4) management of medical waste, and (5) Dioxin Workshop and Vendor Fair. Below is a summary of the completed projects, including actions taken by the Public Works Agency to support those projects. The reports and other documents mentioned below are available for viewing and downloading at *http://dioxin.abag.ca.gov/project_materials.htm* .

(1) Alternatives to diesel: The outcome of this project is a report outlining funding options available to assist municipalities in converting or replacing diesel vehicles with natural gas, biodiesel, or other less-polluting vehicle technologies. The document also contains nine case studies on diesel alternative projects, including the Port of Oakland's "Vision 2000 Maritime Development Program" and its bus re-powering project. The report was used by the City's Equipment Services Division as a reference guide in seeking outside funding for vehicle-conversion projects and identifying examples of changes being made by other municipalities to address air pollution from diesel vehicles.

(2) Dioxin-free paper products: Several documents were produced as part of this project, including frequently asked questions (FAQ's) on "Getting Started on Chlorine-Free Paper Purchasing;" "Cooperative Purchasing Opportunities for Buying PCF Copy Paper;" and an information packet on "[Environmentally Preferred Purchasing] Policies, Paper Specifications, Tips, and Resources." The report was forwarded to the City's Purchasing Division to provide information on options and opportunities to expand use of chlorine-free paper.

Currently, the City employs primarily elemental-chlorine-free (ECF) office paper, which is bleached with chlorine dioxide rather than elemental chorine. While ECF significantly

reduces the amount of dioxins discharged from paper mills, chlorine by-products are not eliminated. Process-chlorine-free (PCF) paper, on the other hand, uses no chlorine in its production process. The cost to the City of switching to environmentally preferable PCF paper would depend on a number of market factors, including the particular paper, market availability of the paper at the time, the distributor, quantity purchased and delivery method. Recent research indicates that while the PCF paper is still more difficult to obtain than ECF paper, it is becoming more available. The current cost for standard white PCF paper is approximately 35%-40% higher than the cost for similar ECF paper. The prices for PCF papers have been dropping, and they will likely be economically feasible for the City to purchase in the near future.

(3) PVC-alternative building materials: FAQ's on "Incorporating Alternatives to PVC in Buildings" were produced, including suggestions for alternatives to commonly used building materials that contain PVC (e.g., cast iron, steel, copper or HDPE-plastic pipes instead of PVC-plastic pipes), a list of online resources for obtaining additional information on "green" construction materials, and architectural-resource directories. This is a useful tool for builders and contractors that PWA-ESD has made available to the public through the Green Building Resources Center located on the second floor of 250 Frank H. Ogawa Plaza. In general, PVC-alternative materials cost anywhere from 30 percent less to 40 percent more than traditional materials.

(4) Management of medical waste: An information packet suitable for distribution to Bay Area hospitals was developed and produced. The information was distributed, and attendees at the Western Regional Pollution Prevention Conference were trained on the contents. The packet contains the following materials:

- Why are Hospitals Rethinking Medical Waste Management?
- Frequently Asked Questions
- Vendor List
- Autoclaving Cost Estimate Worksheet
- Permit Requirements for Installing Autoclaves at Acute Care Hospitals
- Resources for Health Care Pollution Prevention.

(5) Dioxin Workshop and Vendor Fair: The City hosted a dioxin workshop and vendor fair on September 18, 2002, at City Hall. The event, titled "Government Operations and Dioxins Pollution Prevention in the San Francisco Bay Area," was designed for public-agency staff and elected officials as a primer on the human and environmental impacts of dioxins, and the relevant tools and vendors used by local agencies to purchase products that reduce dioxin emissions.

Sport-Fish Consumption Warning Signage

The Public Works Agency worked with the Port of Oakland and the East Bay Regional Park District to install signs along Oakland's shoreline educating anglers about the safe preparation and consumption of fish caught in San Francisco Bay, which may contain chemicals harmful to

human health. These bright-yellow signs were produced by the California Department of Health Services (DHS), and reproduce the State of California's health advisory for San Francisco Bay fish in seven languages (English, Spanish, Tagalog, Chinese, Vietnamese, Lao and Thai). The signs also display easy-to-interpret graphics about the safe preparation and consumption of fish. The design of the signs emerged after a two-year study and community process led by DHS to examine sport-fish consumption patterns among San Francisco Bay anglers.

SUSTAINABLE OPPORTUNITIES

Implementation of the Dioxin Resolution addresses environmental, social equity and economic opportunities as follows:

- Economic: Implementation of the Dioxin Resolution has had no obvious impacts on local employment, local purchasing, tax revenues or other economic opportunities.
- Environmental: The City's projects to reduce the formation of dioxin can be expected to result in improvements in public health and environmental quality and to increase the community's awareness of this issue.
- Social equity: The improved fish consumption warning signage, as well as efforts to reduce diesel vehicles and PVC building materials, will benefit disadvantaged populations throughout Oakland.

DISABILITY AND SENIOR CITIZEN ACCESS

Implementation of the Dioxin Resolution has had no obvious impacts on equal opportunity and access to City programs, services and activities by senior citizens or people with disabilities.

RECOMMENDATION(S) AND RATIONALE

It is recommended that the City continue to consider dioxins in purchasing and operational decision-making. Further, since the Bay Area Dioxin Project has accomplished its goals and been disbanded, it is recommended that this document serve as a final report on the City's responses to Resolution 74773 C.M.S., the Dioxin Resolution.

ACTION REQUESTED OF THE CITY COUNCIL
This is an informational report only and requires no action.

Respectfully submitted,

RAUL GODINEZ II, P.E.
Director, Public Works Agency

Reviewed by:
Brooke A. Levin,
Assistant Director for Facilities and Environment,
Public Works Agency

Prepared by:
Nancy Humphrey,
Environmental Program Specialist
Environmental Services Division

APPROVED AND FORWARDED TO
THE PUBLIC SAFETY COMMITTEE:

Office of the City Administrator

Item #: _____
Public Safety Committee
January 24, 2006

OAKLAND CITY COUNCIL

RESOLUTION NO. 74773 C. M. S.

INTRODUCED BY COUNCILMEMBER _____

RESOLUTION FOR THE CITY OF OAKLAND
ESTABLISHING A REGIONAL TASK FORCE AND POLICY ON
DIOXIN, PUBLIC HEALTH AND THE ENVIRONMENT

Whereas, the term dioxin represents a group of chemicals which includes furan and biphenyl Compounds[1] with the most well-known dioxin, 2,3,7,8-TCDD, believed to be the single most carcinogenic chemical known to science[2];

Whereas, dioxin is a toxic waste byproduct that occurs when chlorinated waste is burned and when other organic chemicals that contain chlorine are manufactured and which in itself has no commercial or industrial use[1];

Whereas, dioxin is dangerous to human health, is ubiquitous in the worldwide environment1 and is a known human carcinogen[3];

Whereas, the U.S. EPA estimates that the lifetime risk of getting cancer from dioxin exposure is above generally accepted safe levels[4], and the U.S. EPA's Dioxin Reassessment has found dioxin 300,000 times more potent as a carcinogen than DDT (the use of which was restricted in the U.S. in 1972)[5];

Whereas, dioxin is an endocrine disrupting chemical affecting thyroid and steroid hormones and almost every hormone system examined has been shown to be altered by dioxin in some cell-type, tissue or developmental stages[6],

Whereas, dioxin has been linked to endometriosis[7], immune system impairment, diabetes, neurotoxicity, birth defects (including fetal death), decreased fertility, testicular atrophy and reproductive dysfunction in both women and men[6,8];

Whereas, dioxin exposure is significant and universal; over 90% of human exposure to dioxin occurs through diet[9,10] and every person in the world now carries a "body burden" of dioxin[5,8];

Whereas, Americans ingest a daily amount of dioxin that is already 300-600 times higher than the EPA's so-called "safe" dose[5,8] and the U.S. EPA estimates that eating just a quarter pound of Bay fish daily causes cancer risks to increase to a level of nearly one in 1,000[11];

Whereas, Oakland residents who consume fish from the Bay are at additional risk[12]; dioxin contamination in fish reaches health advisory levels throughout the San Francisco Bay[13]; and, San Francisco Bay fish consumers are predominantly low income and people of color[12];

Whereas, dioxin is found in the breast milk of woman worldwide with the highest concentrations found in women from industrialized countries[14], and nursing infants take in 50-100 times more dioxin than adults due to drinking contaminated breast milk[15];

Whereas, workers often face disproportionately high exposures to toxic and/or hazardous substances found in their work places, and often there are alternative technologies that can reduce or eliminate the exposure;

Whereas, pollution prevention programs are good for the economy because they result in a net increase in employment, facilitating the just transition of displaced workers from jobs in dioxin-creating industries to jobs in pollution prevention and recycling industries;

Whereas, respected expert associations and agencies including the California Medical Association[16], the American Public Health Association[17], the Chicago Medical Society[18] and the International Joint Commission[19], comprised of the governments of Canada and the U.S., have agreed upon the need to reduce or eliminate dioxin in the environment;

Whereas, dioxin has been detected in measurements of treated waste water discharged from pollution sources in the Bay Area[20] and the San Francisco Bay Regional Water Quality Control Board has resolved that dioxin is a high priority for immediate action to restore water quality and protect public health[21];

Whereas, major sources of dioxin pollution include medical and hazardous waste incineration, the production of polyvinyl chloride (PVC) plastics, biomass combustion, diesel exhaust, pesticide manufacturing, paper production, oil refineries[22], and urban street runoff[23], municipal waste incineration, secondary copper smelting, sewage sludge incineration, residential wood burning, forest fires, industrial wood burning, cement kilns;

Whereas, the healthcare industry is one of the largest producers of dioxin in the United States.[24] Bay Area and out-of-state public health care institutions generate significant amounts of medical waste that threaten or harm public health, fishing and aquatic life throughout San Francisco Bay[23,27];

Whereas no regulatory authority considers the additive effect of all the dioxin sources on the surrounding community,

Whereas, a strategy which eliminates the production of dioxin is the only viable course in protecting public health since once dioxin is produced, it is very difficult to destroy or degrade[19,27];

Whereas, adverse health effects from dioxin exposure can be reduced through purchasing decisions that reduce or eliminate products that produce dioxin (such as PVC-free plastic or chlorine-free paper); and alternative, less toxic options exist for many products that create dioixin[2],

Whereas, pollution prevention is recognized as the most effective waste management strategy[28];

Whereas, careful waste segregation has been proven to reduce dramatically the medical waste requiring incinceration[29] and cost-effective technologies which are alternatives to incineration exist for almost all the waste that does need special handling[30];

Whereas, dioxin is a clear threat to public health and the environment, zero exposure is the only strategy that truly protects public health[31], local dioxin contamination has a disproportionate *impact on low-income and minority communities*[32,33]; and dioxin exposure affects all residents of Oakland and the Bay Area[34];

Whereas, that the City of Oakland has sent a letter to the U.S. Environmental Protection Agency supporting its proposal to require community right to know reporting of dioxin releases and supporting the National Environmental Justice Advisory Committee's advice to make dioxin pollution of San Francisco Bay a high priority under Clean Water Act section 303(d).

Therefore, be it:

Resolved, that the City of Oakland intends by this resolution to encourage elimination of dioxin emissions wherever possible; and be it

Further **Resolved**, that the City of Oakland designates dioxin pollution as a high priority for immediate action to restore water, air, soil, and food quality and protect public health; and be it

Further **Resolved**, that the City of Oakland will work with other local governments to convene a regional task force to identify and quantify the sources of regional dioxin pollution, including sources from all municipal practices; this task force would also develop dioxin pollution prevention strategies along with any associated cost implications, and make any further recommendations to implement the intent of this resolution (the elimination of dioxin); and be it

Further **Resolved**, that the City of Oakland intends to implement dioxin pollution prevention practices in all waste management and recycling programs by City departments, and encourage such pollution prevention practices in all hospitals and businesses that operate in the City; and be it

Further **Resolved**, that the City of Oakland promotes the use of less-toxic, non-chlorinated, sustainable alternative products and processes, such as chlorine-free paper and PVC-free plastics to the extent possible; and be it

Further **Resolved**, that the City of Oakland joins in urging Oakland health care institutions to reduce PVC use and eventually become PVC-free; and be it

Further **Resolved**, that the City of Oakland forwards this resolution, and encourages the Port of Oakland to adopt a similar resolution; and be it

Further **Resolved**, that city staff will recommend to council ways the city can prevent dioxin pollution; and be it

Further **Resolved**, that the City of Oakland is committed to eliminate no workers jobs and therefore will pursue dioxin reduction practices that do not cause workers to become unemployed; and be it

Further **Resolved**, that the City of Oakland will send a letter to Oakland-based health care institutions, to encourage them to phase out the use of PVC products; and be it

Further **Resolved**, that the City of Oakland send a letter to the Bay Area Air Quality Management District (BAAQMD) supporting zero dioxin emission and zero dioxin exposure and urging the BAAQMD to eliminate dioxin pollution into the air; and be it

Further **Resolved**, that the City of Oakland send a letter encouraging the Regional Water Quality Board to exercise its full power and jurisdiction, as intended by the Porter-Cologne

Water Quality Act and the federal Clean Water Act, to protect the quality of water from degradation and to implement a plan to phase out dioxin at its sources.

Dioxin Resolution Citations:

1. Courture, L. et al., 1990. A Critical Review of the Developmental Toxicity and Teratogenicity of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin: Recent Advances Toward Understanding the Mechanism. Teratology 4l:619-627, 1990.
2. Healing the Harm: Eliminating the Pollution from Health Care Practices, Health Care Without Harm Campaign Report, 1997; and Huff, 1994.
3. International Agency for Research on Cancer (IARC) of the World Health Organizations, United Nations, 1997. National Toxicology Program Board of Scientific Counselors of the National Institute of Environmental Health Sciences, 1997.
4. Mariani, Jay. Dioxin Fact Sheet, Environmental Law and Justice Clinic, Golden Gate University, San Francisco, 1998.
5. US EPA. Risk Characterization of Dioxin and Related Compounds; Draft Scientific Reassessment of Dioxin. Washington, D.C.: Bureau of National Affairs. May 3, 1994.
6. Birnbaum, Linda et al. Developmental Effects of Dioxins and Related Endocrine Disrupting Chemicals. Experimental Toxicology Division, US EPA. Toxicology Letters, p. 743-750, 1995.
7. Rier, S.E. et al. Endometrosis in Rhesus Monkeys (Macaca Mulatta) Following Chronic Exposure to 2,3,7,8-Tetrachlorodibenzo-p-dioxin. Fundamental and Applied Toxicology, Vol. 21, pp.433-441, 1983.
8. DeVito, Michael et al. Comparisons of Estimated Human Body Burdens of Dioxin-like Chemicals and TCDD Body Burdens in Experimentally Exposed Animals, pp. 820-831, 1995. Economic Analysis of the Proposed California Water Quality Toxics Rule, US EPA, 1997.
9. Schecter, A., 1991. Levels of Dioxins, Dibenzofurans, PCB and DDE Congeners in Pool Food Samples Collected in 1995 at Supermarkets Across the United States. Chemosphere, Vol. 34, Nos 5-7, pp. 1437-1447, 1994; and Congener-Specific Levels of Dioxin and Dibenofurans in U.S. Food and Estimated Daily Dioxin Toxic Equivalent Intake, Environmental Health Perspectives, 1994.
10. Testimony of Dr. William Farland in the dioxin science workshop heard by the RWQCB May 7, 1998.
11. U.S. EPA. Economic Analysis of the Proposed California Water Quality Toxics Rule, pp. 8-11, 1997.
12. RWQCB et al. Contaminant Levels in Fish Tissue from San Francisco Bay, 1995.
13. OEHHA. "Health Hazard: Catching Fish and Easting Sport Fish in California", Interim Sport Fish Advisory for San Francisco Bay. California Office of Environmental Health Hazard Assessment, California, EPA. December, 1994.
14. Schechter, A. Dioxins in Humans and the Environment. Biological Basis for Risk Assessment of Dioxins and Related Compounds, Banbry Report 35: 169-214. 1991.
15. Linstrom, Gunilla, et al. Workshop on Perinatal Exposure to Dioxin-like Compounds I. Summary, Environmental Health Perspectives, Volume 103, Supplement 2, March 1995.
16. California Medical Association, Resolution, 1998.
17. American Public Health Association, Resolution 9607, 1996.
18. Chicago Medical Society, Resolution, 1998.
19. Sixth Biennial Report on Great Lakes Water Quality. Washington, D.C. and Ottawa, Ontario: International Joint Commission, 1992.
20. Self-monitoring Reports Submitted to to the RWQCB by the Tosco, Unocal, and Pacific Refining Oil Refineries and the San Francisco Southeast, San Jose/Santa Clara, Sunnyvale, Union Sanitary District, and West County Agency Sewage Treatment Plants.

21. Regional Water Quality Control Board, Policy Statement on Dioxin, February 18, 1998.
22. Thomas, V. et al. An Estimation of Dioxin Emissions in the United States. Department of Chemistry and Center for Energy and Environmental Studies, Princeton University. Toxicological and Environmental Chemistry, Vol. 50, pp. 1-37. 1995.
23. Maher, D. et al., 1997. PCDD/PCDFS Levels in the Environment: In Storm Water Outfalls Adjacent to Urban Areas and Petroleum Refineries in San Francisco Bay, CA, USA. Organohalogen Compounds, Vol. 32.
24. California Technical Support Document for Medical Waste Incinerators, California Air Resources Board, 1990. Dioxin Sources, US EPA, 1996.
25. California Air Resources Board Medical Waste Inventory, 1997.
26. *Bay Area Hospital Medwaste Survey, Jennifer Altman Foundation*, March, 1998.
27. California Zero Dioxin Exposure Alliance Letter to Loretta Barsamian, Executive Director, Regional Water Quality Board, San Francisco Bay Region, February 6, 1998.
28. Pollution Prevention Act of 1990, U.S. Congress.
29. American Hospital Association. "An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities". 1993.
30. California Technical Support Document for Medical Waste Incinerators, California Air Resources Board, 1990.
31. Seventh Biennial Report on Great Lakes Water Quality, International Joint Commission, 1994.
32. Moffat,S. "Minorities Are More Likely To Live Near Toxic Sites". Los Angeles Times, p. B1. *August, 1995.*
33. National Environmental Justice Advisory Committee to the U.S. EPA, June 3, 1998.
34. Schecter, A., Dioxins in U.S. Food and Estimated Daily Intake. Chemosphere, Vol. 29, Nos. 9-11, pp.2261-2265, 1994.

I hereby certify that the foregoing is a full, true and correct copy of a Resolution passed by the City Council of the City of Oakland on FEB - 2 1999.

CEDA FLOYD
City Clerk and Clerk of the Council

Per _____ *Deputy*