

**Catholic Healthcare West  
Environmental Annual Report  
FY 2002**

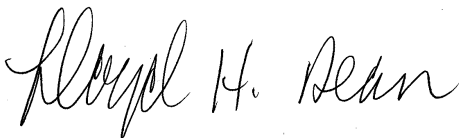
**Annual Environmental Report (July 1, 2001 to July 1, 2002)**

Catholic Healthcare West (CHW) is proud to present our 6<sup>th</sup> annual environmental report detailing overall efforts towards our environmental commitment and continued work with the Coalition for Environmentally Responsible Economies (CERES). CHW -- its sponsors, physicians, and employees -- are committed to a mission of healing. Vital to this mission is ensuring that our operations do not in themselves cause harm. Our endorsement of the CERES principles and ongoing efforts in protecting the environment are rooted in our value of stewarding Earth's resources.

CHW continues to make significant progress in environmental responsibility. We have established firm environmental criteria that guide our purchasing processes and encourage the sharing of best environmental practices throughout the system. CHW maintains a strong focus on environmental audits and meeting concrete environmental goals. We continue to use our investments in selected Fortune 500 companies to sponsor shareholder resolutions asking that companies minimize the environmental impacts of their products and operations. During FY2002 our Board of Directors revised our environmental policy to reflect our new organizational structure and issued a mercury elimination policy to guide our efforts to rid our facilities of mercury. We remain committed to reducing both the volume and toxicity of waste generated in the provision of health care services through selective purchasing and rigorous reuse and recycling.

We thank the many CHW employees who have contributed to our environmental programs this year. Without these devoted employees the progress CHW has made would not have been possible. We look forward to working with our employees, customers, and stakeholders, to continue making unique and much needed contributions toward a healthier environment.

Sincerely,



Lloyd H. Dean  
President/CEO

## Catholic Healthcare West – Environmental Annual Report 2002

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## **SECTION I: COMPANY PROFILE**

Catholic Healthcare West is a system of 42 hospitals and clinics whose employees and physicians have a long and rich tradition of caring for persons who are sick, poor and disadvantaged. In addition to providing health care, CHW seeks to address the underlying causes of illness, including environmental dangers. CHW is proud to be the first health care system in the nation to endorse the CERES principles, a model code of environmental conduct. <http://www.ceres.org/>

### **Mission and Values**

CHW is committed to furthering the healing ministry of Jesus Christ. Our mission is to:

- ❖ Deliver compassionate, high quality, affordable health services;
- ❖ Provide direct services to and advocate on behalf of our sisters and brothers who are poor and disenfranchised;
- ❖ Partner with others in the community to improve the quality of life.

Our core values guide us in our mission. CHW values above all else:

- ❖ **Dignity**—respecting the inherent value and worth each person possesses as a member of the human family.
- ❖ **Collaboration**—working together with people who support common values and vision to achieve shared goals.
- ❖ **Justice**—advocating for change of social structures that undermine human dignity, demonstrating special concern for those who are poor.
- ❖ **Excellence**—a shared commitment to quality in our work and services through teamwork and innovation.
- ❖ **Stewardship**—accountability for the human, financial and ecological resources entrusted to our care as we promote healing and wholeness.

Embedded in our core values is a belief in the sacredness of all life forms and caring stewardship of a renewable Earth for the enhancement of all life. In light of these values, we have taken a closer look at our facilities and their practices as they relate to ecological issues. Recognizing the interdependence of all things great and small, we move toward choices that honor our partnership with the whole of creation.

### **CHW and Environmental Principles**

CHW has been a supporter of CERES since its inception in 1989. While many positive environmental activities are occurring at our facilities, we are continually developing new tools and resources to achieve our goals for environmental excellence. Our sixth annual report, for fiscal year July 1, 2001 to July 1, 2002 demonstrates our efforts to date to develop meaningful programs and recognizes our opportunities for improvement.

### **Contact**

Sister Susan Vickers, RSM, is CHW's Director of Advocacy and the systemwide point of contact for our participation in CERES. Her address is 185 Berry Street, Suite 300, San Francisco, California, 94107. Sister Susan can be reached by telephone at 415-438-5511, by fax at 415-591-2404 and by E-mail at [svickers@CHW.edu](mailto:svickers@CHW.edu).

## CHW Statistics

	2000	2001	2003
Assets	\$5.96b	\$5.3 b	\$5.3 b
Net Operating Revenue Annualized	\$4.51 b	\$4.2 b	\$4.5 b
Net Income Annualized	(\$47,551 m)	(\$116.7 m)	(\$54 m)
Acute Care Beds	9,569	7,088	6,758
Skilled Nursing Beds	1,821	1,175	1,415
Physicians	7,797	6,500	7,033
Full-time Equivalent Employees (FTEs)	39,879	36,000	35,266
Acute Patient Care Days	1.58 m	1.3 m	1.6 m
Community Benefits & Care of the Poor	\$406 m	\$366 m	\$368 m

## CHW Medical Foundations

- ◆ MedClinic of Sacramento
- ◆ St. Joseph's Medical Associates, Stockton

## CHW Acute Care Facilities, June 30, 2002

- ◆ Bakersfield Memorial Hospital, Bakersfield
- ◆ California Hospital Medical Center, Los Angeles
- ◆ Chandler Regional Hospital, Chandler
- ◆ Community Hospital of San Bernardino, San Bernardino
- ◆ Dominican Hospital, Santa Cruz
- ◆ Glendale Memorial Hospital & Health Center, Glendale
- ◆ Marian Medical Center West, Santa Maria
- ◆ Marian Medical Center, Santa Maria
- ◆ Mark Twain St. Joseph's Hospital, San Andreas
- ◆ Memorial Center, Bakersfield
- ◆ Mercy General Hospital, Sacramento
- ◆ Mercy Hospital of Folsom, Folsom
- ◆ Mercy Hospital, Bakersfield
- ◆ Mercy Medical Center Mt. Shasta, Mt. Shasta
- ◆ Mercy Medical Center Redding, Redding
- ◆ Mercy Merced Medical Center Community Campus, Merced
- ◆ Mercy Merced Medical Center Dominican Campus, Merced
- ◆ Mercy San Juan Hospital, Carmichael
- ◆ Mercy Southwest Hospital, Bakersfield
- ◆ Mercy Westside Hospital, Taft
- ◆ Methodist Hospital of Sacramento, Sacramento
- ◆ Northridge Hospital Medical Center Roscoe Blvd Campus, Northridge
- ◆ Northridge Hospital Medical Center Sherman Way Campus, Northridge
- ◆ Oak Valley Hospital District, Oakdale
- ◆ Saint Francis Memorial Hospital, San Francisco
- ◆ San Gabriel Valley Medical Center, San Gabriel

**CHW Acute Care Facilities, June 30, 2002 Continued:**

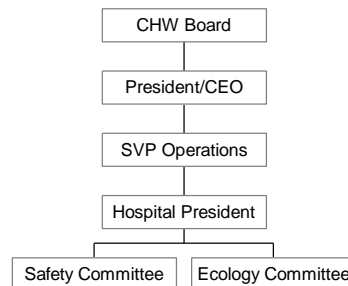
- ◆ Sequoia Hospital, Redwood City
- ◆ Sierra Nevada Memorial Hospital, Grass Valley
- ◆ St. Bernardine Medical Center, San Bernardino
- ◆ St. Dominic's Hospital, Manteca
- ◆ St. Elizabeth Community Hospital, Red Bluff
- ◆ St. Francis Medical Center, Santa Barbara
- ◆ St. John's Pleasant Valley Hospital, Camarillo
- ◆ St. John's Regional Medical Center, Oxnard
- ◆ St. Joseph's Behavioral Health Center, Stockton
- ◆ St. Joseph's Hospital and Medical Center, Phoenix
- ◆ St. Joseph's Medical Center, Stockton
- ◆ St. Mary Medical Center, Long Beach
- ◆ St. Mary's Medical Center, San Francisco
- ◆ St. Rose Dominican Hospital, Henderson, NV - Rose de Lima Campus
- ◆ St. Rose Dominican Hospital, Henderson, NV - Siena Campus
- ◆ Woodland Healthcare, Woodland

## SECTION II: ENVIRONMENTAL POLICIES, ORGANIZATION, & MANAGEMENT

In 1996, CHW's Board of Directors issued our environmental policy based on the CERES principles. Key personnel from each of CHW's hospitals received education and training on this policy, and were directed to incorporate these environmental principles into their hospital's day-to-day operations. CHW is firmly committed to consistent improvement and to public accountability for its environmental impact and/or activities. The systemwide policy is reviewed on an annual basis and was updated in 2002. In June 2002 the CHW Board issued a mercury elimination policy. (See Appendix A & B for environmental and mercury elimination policies).

Implementation of our environmental policy is handled at our local hospitals by cross-functional teams known as Environmental Action Committees (EACs), which are responsible for coordinating the overall CERES efforts and are the cornerstone of our success. Meeting no less than bimonthly, these committees are responsible for overseeing a hospital wide comprehensive environmental health and safety program that evaluates all environmental health and safety issues. These committees ensure that effective programs are in place and monitored, tracked and trended. The EACs develop action plans to ensure continued compliance, and that trends are documented and performance reported to the facility's Senior Management. An EcoContact appointed by the Hospital President chairs each EAC. The EcoContacts meet regularly by telephone conference to share best practice and to participate in educational sessions.

Environmental Reporting Relationships



In addition to our commitment to CERES and other voluntary efforts, CHW hospitals are required to comply with external licensing and certification regulations of county, state and federal governments. Organizations such as the Joint Commission for the Accreditation of Healthcare Organizations (JCAHO), Department of Health Services (DHS), Occupational Health and Safety Administration (OSHA), and many others mandate compliance with environmental standards. Every CHW hospital has appointed individuals responsible for compliance programs.

### Trends in FY 2002

This is the first year we have achieved 100% of our facilities reporting environmental data in support of completion of this report. All but one facility provided a detailed report, and all but two were able to provide solid and medical waste data. We are very

pleased with our ability to gather data, and therefore use it to manage our environmental issues.

Though previous year's data was incomplete, a comparison with this year's data indicates that our total waste disposal volumes (total waste is defined as solid waste plus medical waste) have decreased about 5% since the year 2000, to 17.6 pounds per adjusted patient day. Our goal for next year is to reduce that volume to 15 pounds per adjusted patient day in FY 2003.

We continue to face challenges in meeting our objectives. In past years we have worked hard to ensure proper disposal of various chemicals used in our laboratories. This effort has largely been successful, but as an outgrowth of this effort we have now identified deficiencies in our methods of storing hazardous wastes at various facilities. No external impacts occurred as a result of storage deficiencies. Identified problems have been corrected, and an ongoing training and audit program is in progress to permanently correct the problem. Our California facilities have recently become subject to new regulations that control pharmaceutical waste in a more stringent manner. We are developing programs to help facilities understand and comply with these new regulations. We regret to report that our "SAFE" program, which provided corporate funds to individual facilities to implement health and safety improvements which otherwise could not be funded, has been discontinued due to budget cuts. We will continue to encourage the facilities to implement needed health and safety improvements through other means.

Six years into CHW's environmental commitment, the major challenge to full implementation remains the lack of a systemwide environmental management system with clear accountability for progress toward established goals. During FY2002 further steps were taken to strengthen the infrastructure for environmental stewardship:

- CHW's systemwide Environmental Policy and Statement of Principles was revised and disseminated
- Each Hospital President identified an EcoContact responsible for leading the facility's ecological initiatives
- Regular teleconference calls provided EcoContacts with an opportunity to share best practices and to participate in educational sessions on a range of environmental issues
- A quarterly reporting process for monitoring progress toward waste reduction and recycling goals was developed and implemented
- A breakout session on environmental issues was integrated into the annual Risk Services Seminar

#### **Coordination With Others**

CHW has joined other voluntary environmental efforts, such as Health Care Without Harm, an organization whose aim is to eliminate mercury, polyvinyl chloride, and other harmful substances from the waste stream. CHW received the "Champions for Change" Award in recognition of our efforts to reduce waste and eliminate mercury.



Each year CHW uses its corporate influence to extend our goals beyond our own facilities through our Community Investments, Community Grants and Shareholder Advocacy initiatives.

**Community Investments**

Through the Community Investment Program, the System facilitates collaborative partnerships to improve the health status and well being of persons in CHW service areas. Catholic Healthcare West’s Community Investments program makes low-interest loans to non-profit housing developers and other organizations that share this commitment. Now in its eleventh year, this program represents a significant effort for CHW to enhance the health and well being of individuals, families and communities.

Cumulatively, Catholic Healthcare West has lent over \$45 million as of June 30, 2002. Of this amount, \$18.1 million was outstanding as of that same date. Besides loans, CHW has made guarantees totaling \$23 million, \$4.8 million of which is currently in effect on behalf of three nonprofit organizations. During FY2002, the CHW Investment Committee approved 9 new loans totaling \$2.7 million.

CHW’s Community Investments include a \$300,000 EcoDeposit in ShoreBank Pacific, whose mission is to conserve the environment while improving the economy by encouraging business practices that respect and sustain the natural resource base. We maintain a \$1,000,000 CD at South Shore Bank in Chicago and \$100,000 CD at Shorebank Detroit. Shorebank is a community development financial institution that successfully combines finance, development and conservation objectives. Furthermore, CHW owns a \$100,000 Environmental Certificate of Deposit from the Self-Help Credit Union. These funds directly support the growth of locally owned small businesses that create jobs and preserve our natural resources.

<i>Use of Loan Dollars</i>	<i>Total Amount Loaned</i>	<i>Percentage of Total Investments</i>
Housing	\$17,639,057	39.1%
Community Development Financial Institution[CDFI]	11,056,000	24.5%
Community Facilities	9,101,668	20.2%
Specialized Housing	2,296,000	5.1%
Business Lending	971,000	2.2%
Community Clinics	2,806,500	6.2%
International-housing, business, community facilities	1,239,000	2.7%
<b><i>Total – Repaid and Outstanding Loans @ 6/30/02</i></b>	<b><i>\$45,109,225</i></b>	<b><i>100.0%</i></b>

**Community Grants**

Through its Community Grants program, Catholic Healthcare West has become recognized by local nonprofit organizations as a hospital system that is concerned about

all aspects of a community's health and well being. During the 2001 cycle, CHW received 253 Letters of Intent and invited 136 organizations to prepare full proposals. These full proposals represented \$2.86 million in requests. By awarding \$1,606,980, CHW was able to fund 95 projects and 56.2% of the amount in requests it received. This year forty-seven of the 95 grants awarded were to organizations that had never received a CHW grant.

<b>Area of Focus or Focused Population</b>	<b>No. Grants Awarded</b>	<b>Total Amount of Grants</b>
Family Violence – Education and Prevention	16	\$281,001
Family Violence – Treatment Services	18	\$369,080
Health Services – Access & Affordability (Medical, Dental, Mental Health, Vision and Hearing)	23	\$359,563
Services for Homeless and formerly Homeless Persons	5	\$83,500
Services for Youth	11	\$201,466
Services for Seniors	8	\$88,936
Other – parenting classes, GED, transitional housing, food pantries, etc.	14	\$223,434
<b>Total</b>	<b>95</b>	<b>\$1,606,980</b>

### **CHW Shareholder Advocacy Program**

CHW has developed an investment program that effectively integrates its mission and values in investment decisions and leverages its investment portfolio to promote corporate social responsibility and accountability on a range of issues that affect the broader health of the community. Through dialogue with corporate management, education, proxy voting and shareholder resolutions at company annual meetings, CHW uses its rights as a shareholder in certain corporations to raise issues of social and/or environmental concern.

CHW's Investment Policy directs that CHW address portfolio companies on a range of social and environmental issues consistent with CHW's advocacy priorities:

- Expand access to needed healthcare services and products
- Partner with others to improve the quality of life in communities
- Advance ecological initiatives

During FY 2002 CHW engaged 22 companies on 13 issues ranging from access to pharmaceutical products and development of alternatives to PVC (polyvinyl chloride) medical equipment to research of renewable energy sources and adoption of environmental and human rights standards for operations worldwide.

Two of our proposals gained unusually strong support during the 2002 proxy season. 19.4% of General Electric shareholders supported CHW's proposal asking for a report on

greenhouse gas emissions. 19.1% of Exxon-Mobil shareholders favored our proposal asking the company to research and develop renewable energy sources.

Dialogue with Stericycle, the sole national medical waste management company in the US, promises to be especially fruitful. Stericycle is developing a format for a public environmental report and is working with CHW and representatives of Health Care Without Harm (an organization that campaigns for environmentally responsible health care) to expand and enhance the waste audit tool that Stericycle uses with its clients in order to reduce the volume and toxicity of medical waste.

### **Leveraging CHW's Membership in Trade Associations**

American Hospital Association: In 1998 CHW was instrumental in promoting a MOU between the American Hospital Association and the Environmental Protection Agency to reduce the volume and toxicity of the waste produced through the delivery of health care services. The MOU has provided leadership and direction for American hospitals in addressing environmental issues. A website and list serve support AHA members in such initiatives as eliminating mercury and identifying alternatives to PVC medical products. CHW was awarded a "Champion for Change Award" at AHA's annual meeting in April 2002.

Catholic Health Association of the United States: At CHW's urging, CHA-US has announced its endorsement of the Health Care Without Harm Campaign and CHW staff has joined a planning team for member education on environmental issues in health care.

California Healthcare Association (CHA): At CHW's urging, the California Healthcare Association (CHA) and the California Medical Association (CMA) have issued a joint letter advising their respective members to consider using alternatives to products that contain DEHP (a phthalate plasticizer used to make vinyl medical equipment flexible) in the treatment of male neonates. In disseminating information on DEHP, CHA clearly acts in its members best interests and counters past messages that have defended vinyl medical products containing DEHP.

Premier: CHW's Supply Chain Management Team has taken the lead in setting the industry bar for incorporating environmental principles into health care supply chain management. By carefully selecting goods and services at the front end, members of the Supply Chain Management significantly reduce CHW's waste stream and its negative impact on the environment. The team has reached beyond CHW to influence the purchasing policies of Premier, a hospital group purchasing organization in which CHW holds membership. CHW's contract requires Premier to consider the environmental impact of a product or service when selecting goods and services and to support the campaign to reduce the volume and toxicity of the medical waste stream. Currently Premier is accepting proposals in response to an RFP that requires alternatives to PVC medical equipment.

HospAA (Hospital Alliance Association): HospAA is a coalition of hospital personnel eager to advance environmental awareness and responsibility in the health fields.

HospAA's mission is to provide a forum for training and the exchange of ideas between the wide spectrum of hospital staff, suppliers and regulators that promotes the cost-effective and efficient operation of hospital systems and results in cleaner, safer and healthier facilities for patients, staff and the surrounding community. CHW's SVP for Mission Integration gave the keynote address at HospAA's fall 2001 conference. CHW's Systemwide Ecology Coordinator led a breakout session on blue sterile wrap recycling.

### Employees

CHW hospitals use newsletters, bulletin boards, staff meetings and safety fairs to educate employees on environmental issues. Employees are encouraged to identify and correct environmental deficiencies or errors as they see them. To ensure that our staff is qualified to carry out their environmental responsibilities, all hospitals conduct annual competency reviews of all key personnel. Management is responsible to ensure that employees receive the required training and are competent in performance of their duties. An annual program tests employee knowledge and documents their competency.

### Awards

We have been fortunate to be recognized for a number of awards this past year, which could only be achieved through the efforts of our employees.

<b>Facility</b>	<b>Award</b>	<b>Program Area of Award</b>
Glendale Memorial Hospital	National Safety Council	Exemplary safety record
Marian Medical Center	Completing the Cycle Award	Aggressive recycling program
Marian Medical Center	WRAP of the Year Award from the CA Integrated Waste Management Board	Leadership in waste management and recycling
Dominican Santa Cruz Hospital	WRAP of the Year Award from the CA Integrated Waste Management Board	Leadership in waste management and recycling
St. Elizabeth Community Hospital/Dominican Hospital	H2E Pioneer Award	Early recognition and action on mercury removal
St. John's Regional Medical Center/Pleasant Valley Hospital	WRAP Award	Leadership in waste management and recycling
St. Joseph's Hospital, Phoenix	Wastewater Management	Ninth consecutive year of 100% compliance with waste discharge requirements
St. Rose Dominican Hospital	Desert Landscaping Award	Water conservation

### **SECTION III: MATERIALS POLICY**

CHW is using its purchasing power to achieve environmental goals. Our efforts fall into a number of broad areas. These include:

#### **Purchasing Guidelines**

CHW has environmental purchasing guidelines implemented through its central purchasing organization covering many elements, including evaluation of a product's:

- Energy and water efficiency
- Durability
- Packaging
- Manufacturing process (e.g. use of hazardous materials or ODCs)
- Hazardous materials and Recycled content
- Recycling Potential/Disposal options
- Ergonomics
- Ease of Maintenance

Our Materials Policy pursues several environmental goals. First, we seek to reduce waste at its source by redesigning processes and purchasing practices to reduce the amount of virgin materials purchased. Second, once a procurement need is identified, we try to purchase goods with recycled content that can specifically be recycled, and have a low life cycle impact on the environment. Once our purchases reach the end of their initial use, we focus on recycling, reuse within the hospital, transfer to another user (such as the community or needy organizations), and finally to proper waste disposal. A cross-functional decision making group, the "Value Analysis Committee," exists at the system and local facility level to help analyze and make these purchasing decisions.

CHW has entered into an agreement with a purchasing company known as Premier that provides 60% of all the products purchased by CHW. CHW is working with Premier's senior management to implement a program that lives up to our needs and expectations.

#### **Improved Processes And Purchase Of Items With Recycled Content**

The Bay Area hospitals entered into a purchasing agreement with Boise Cascade Corp. Boise Cascade has diligently worked to reduce manufacturing wastes and has developed new ways to reuse and recycle the waste it does generate. The company has diverted tons of waste paper from municipal landfills by providing recycled-content papers. Boise Cascade has made significant reductions in the amounts of certain chemicals emitted into the air from pulp and paper mills and has virtually eliminated the leaching of chemicals into the water stream. Boise Cascade has also greatly reduced the amount of packing materials used and whenever possible utilizes recycled packing materials.

**Saint Francis Memorial Hospital** in San Francisco requires all vendors who deliver materials on pallets to take back and reuse all pallets left at the hospital. **Community Hospital San Bernardino** is one of many facilities that recycle toner cartridges.

At **Marian Medical Center**, Materials Management is involved in all purchasing decisions. An "Approved Products List" is maintained that keeps non-environmentally

friendly chemicals from being ordered. Packaging containers including crates and cardboard boxes are recycled as well as paper and styro-type packing materials. Unwanted vendor "samples" are minimized through controls put in place by materials management. Marian operates a Franciscan Store that houses items from various departments that can be taken for reuse before recycling.

### **Reuse of Existing Materials**

CHW has contracted with Vanguard, a company that specializes in reprocessing "single use" items to allow for multiple uses. Items range from surgical instruments to scrubs. The reprocessing initiative is one of our corporate compliance goals for the coming year. The goal for July, 2003 is to reach 30% collection of all eligible devices system-wide. The goal in 12 months (December 2003) is to reach 60% of all eligible devices system-wide. The associated annual savings with these goals is at least \$2.0 million @30% and \$3.8 million @ 60% participation. 27 new FDA approved devices are expected for release at Vanguard by December 2002, creating additional savings opportunity. A baseline will be established with the collection results of each hospital in the 1st quarter FY03, and those results reported in the corporate compliance report.

During recent council meetings with Cardiovascular Managers, Surgical Services Managers, Materials Managers and Infection Control Practitioners the collection rates from FY 2002 were reviewed, the objectives established for FY 2003 and beyond, and the commitment was renewed to strengthen the collection and use of re-manufactured devices using Vanguard Medical Concepts. A "Vanguard Handbook" with supporting documents has been provided to each facility. Mercy Bakersfield, Sierra Nevada, Woodland, and Mercy General have piloted these efforts and rollout to all other facilities is underway.

### **Process Redesign To Eliminate Mercury And PVC**

CHW's endorsement of the Healthcare Without Harm Campaign (HWHC) has committed us to develop a plan for the reduction and ultimate phase-out in the use of mercury and PVC. HWHC's goal is the reduction in the toxicity and volume of the medical waste stream. Mercury and mercury compounds are a bio-accumulative and toxic substance hazardous to human health and the environment. PVC products are a major source of the cancer causing substance dioxin. Mercury has commonly been found in the hospital environment. It has been used in the form of thermometers, blood pressure monitors (sphygmomanometers), high intensity lights, switches, fluorescent lights, thermostats, feeding tubes, esophageal dilators (Maloney or Hurst bogies), cantor tubes, Miller Abbott tubes and batteries. Nearly all of our facilities are now virtually mercury free. PVC is also used in many health care applications. We are demanding that our suppliers work to develop non-PVC alternatives for the various PVC products we are still required to use.

### **Sustainable Building Programs**

CHW is in regular discussion with the Healthy Building Network, a group involved in several ecology efforts and the American Society of Healthcare Engineering (ASHE), to investigate sustainable building practices for our facilities. Efforts include choosing

building materials wisely, design for future disassembly, life cycle design, and designing for minimizing use of natural sources. Some of our early efforts in this program include:

**Mercy Hospital of Folsom** is designing their new Emergency Department for maximum natural lighting and energy efficiency. **Mark Twain St. Joseph's Hospital** has completed renovation of its North Wing to include energy efficient glass, insulation, and lighting. **Mercy Medical Center Mt. Shasta's** new Cancer Center was built with an energy management system, low energy lighting and temperature control units, and low water use plumbing. **Mercy Medical Center Redding** recently completed remodeling including efficient windows, lighting, temperature control units and placement of recycling containers in the optimal positions.

## **SECTION IV: RELEASES TO THE ENVIRONMENT**

As in all our previous reports, we do not have any chemicals that require reporting under EPA's Toxic Release Inventory (TRI) program. We continue to have no reporting obligations for the hundreds of chemicals included in the TRI program and have no intention of having significant amounts of any of these chemicals in the future.

In terms of actual or potential releases to the environment, we continue to focus on two main areas: protection of the stratospheric ozone layer, and control of the release of greenhouse gases.

### **Ozone Layer Protection**

Our control of Ozone Depleting Chemicals (ODCs) continues to rely on the changeout of equipment that uses ODCs, specifically Chlorofluorocarbons (CFCs). ODCs are used in only two processes throughout our system of hospitals: older style Ethylene Oxide (ETO) sterilizers, which contain ODCs as propellants, and refrigeration equipment such as chillers and air conditioners.

All of our older model ETO sterilizers have been replaced with new units that substitute HCFCs for CFCs, or have been eliminated entirely by new style units that do not use a propellant. Of the few ETO sterilizers that we still have, all have been modified to capture greater than 99% of ODC leakage for recycling. Refrigeration equipment containing ODCs is being replaced as it reaches the end of its useful life with equipment that does not use CFCs.

Examples of accomplishments in reducing releases to the environment this past year include:

In the **San Joaquin Service Area**, St. Dominic and St. Joseph's hospitals are in the process of modernizing their chillers and boilers to prevent harmful chiller gasses from going into the atmosphere. Secondary containment of CFC chillers to capture any CFC leakage has been in place for several years, while the new equipment will contain non-CFC refrigerants. The facilities also replaced an old ETO sterilizer with a new unit that captures over 99% of all refrigerant.

The **Kern County Service Area** has phased out ETO sterilizers at Mercy Hospital and replaced two, 400-ton R-11 chillers with models that run on the non-CFC refrigerant R-123. They also replaced units that run on R-12 or R-22 with non-ozone depleting refrigerants.

### **Greenhouse Gases**

Fossil fuels burned for energy by our hospitals and by vehicles driven by our employees and vendors result in gas emissions. These emissions are linked to concerns for global warming and climate change. CHW seeks to control the greenhouse effect by replacing older, outdated equipment with newer, more efficient equipment, by developing



programs that reduce energy consumption (and therefore fuel usage and emissions), and by reducing vehicle trips by our staff and vendors.

In FY 2002, we estimate our greenhouse gas emissions as 127, 173 metric tons from electricity usage and 100,025 metric tons from natural gas usage. This equates to a 2% decrease from the previous year.

Several of our facilities have ongoing retrofit programs, including replacement of older boilers, improving steam supply systems, replacing ballasts in fluorescent lighting systems, and improving windows and insulation. While we do not specifically track greenhouse gas emissions from employee miles driven, many of our facilities have active carpool programs in place to reduce vehicle miles driven, and in many instances we are working with vendors to reduce their visits and vehicle mileage as well.

Some specific examples of these programs include:

**Marian Medical Center** is developing a program that will use methane from a nearby landfill, which is currently released into the atmosphere, as source of gas to create electricity for the entire facility. An estimated 2.3 Megawatts/year could potentially be generated. Through conservation efforts Marian has already reduced its electricity needs by 400,000 kilowatts this past year.

**St. Joseph's Hospital Medical Center, Stockton** participates in a travel reduction program by arranging for a separate garage accessible only to car-pool riders. Exempt staff are encouraged to work-at-home one day each month. Public transit passes are given to all staff and volunteers free of charge (up to 21 round trips each month) to encourage bus riding.

**Woodland Healthcare** has an Employee Transportation Coordinator who monitors alternate ways of getting to work, such as carpooling, public-transit, walking and biking and offers a cash prize in a quarterly contest for alternative commuters.

**St. Mary Medical Center, Long Beach** reduces air pollution through adoption of a soy-based fuel, which is used instead of traditional fuels.

**St. Mary's Medical Center, San Francisco**, through a variety of conservation efforts, reduced electricity usage by 16% and gas usage by 9% in the past year.

**Mercy General Hospital, Sacramento**, has developed a very successful ride-share and other commuter programs to help reduce air pollution in the Sacramento valley. Our facilities in the **Bakersfield, San Bernardino, the Bay Area** and other areas have developed similar programs.

Several other energy efficiency projects are discussed in Section VI. Although our activities are a small part of the overall equation, we continuously strive to increase our contribution to reducing the greenhouse effect on our environment.

## **SECTION V: WASTE MANAGEMENT**

In conjunction with our efforts to reduce, reuse and recycle materials, we manage our waste streams to ensure that all waste is properly captured, recycled, and treated or disposed. Such material, including medical, hazardous, non-hazardous, and construction debris, originates from a myriad of activities that we conduct in the course of providing health care services.

### **Non-Hazardous Waste**

Many non-hazardous waste streams are generated from hospital operations, among them food, beverage and office wastes. Many of these waste materials are recycled, including aluminum cans, metals, paper, cardboard, plastics, bottles and “universal wastes” such as batteries and fluorescent tubes.

*CHW has determined that we generate 16.1 pounds of non-hazardous waste and 1.5 pounds of medical waste for a total of 17.6 pounds of total waste per adjusted patient day (hazardous waste volume is not included in this number because it is such a small fraction of the total waste stream). Our goal for the coming year is to reduce this number to 15 pounds per adjusted patient day.*

Our facilities are creative in their methods of reducing waste. For instance, when **Marian Medical Center** discovered that there was no greenwaste-recycling program in their community, they created their own. The greenwaste is now being sent to a local company for composting. When this composted material is applied on the agricultural fields, the farmers use less water, fertilizer, and pesticides. 25,500 lbs./year of greenwaste has been diverted from our landfill.

Blue Sterile Wrap is a plastic used in many hospital processes that in the past has been a large landfill contributor. CHW is now working with Marathon Recovery, a company that procures a wide range of polyethylene and polypropylene plastic film waste, including the blue wrap, as well as plastic bags of all types, stretch and shrink wraps used to encase durable goods or palletized merchandise, heavier weight packaging, and even bubble wrap. The recovered plastic film waste is used as glue in a product called Marathon, a wood/plastic composite building material. Since the inception of the program, we have diverted on average 3000 pounds of plastic/facility/year from entering our landfills.

To improve our operations, meet changing demands, and respond to new safety and building codes, CHW is constantly renovating, demolishing, and building facilities. This activity generates construction debris. Through its contractors, CHW ensures as much of this debris as feasible is recycled. Examples of materials include steel studs, aluminum, copper, and cardboard. Old concrete is segregated, crushed, and used as backfill material. Additionally, CHW requires that new facilities be built, to the extent possible, with recycled materials and with an eye toward proper deconstruction when the facility reaches its end of life, ensuring that the facilities we build today can be properly reclaimed many years from now.

## **Medical Waste**

"Medical waste" refers to materials generated as a result of patient diagnosis, treatment, or immunization of human beings or animals. "Infectious waste" refers to that portion of medical waste that could transmit infectious diseases. Medical waste is a subset of "hospital waste" and "regulated medical waste", which is synonymous with "infectious waste" from a regulatory perspective, is a subset of "medical waste." CHW hospitals work towards medical waste reduction through a variety of programs. The most successful programs involve improving training and procedures to ensure non-medical waste is properly segregated from true medical waste. There are also parts of the medical waste stream, such as sharps, that can be recycled. CHW is attempting to reduce the amount of sharps produced by moving to needleless technology where possible. Sterilization renders 98% of all medical waste non-hazardous, while medical waste with higher biological hazards, such as pathological waste, is required by law to be incinerated. CHW uses only the best commercial incineration vendors and does not operate any of its own incineration facilities.

## **Hazardous Waste**

Hazardous waste disposal volumes decreased by 12% from FY 2001 to FY 2002. On average, each of our facilities generated and disposed of 612 pounds of hazardous waste this past year, or the equivalent of less than two 55 gallon drums per facility. This waste consisted primarily of small amounts of chemicals used in our hospital laboratories, such as gluteraldehyde, formaldehyde, and stains and dyes used in medical analyses. In addition, about 1500 cubic yards of asbestos from remodeling projects at our older facilities and trace amounts of mercury from our continuing mercury abatement efforts were also disposed of. Our goal for next year is to reduce chemical waste volume by an additional 5% through substitution of certain hazardous materials with non-hazardous substances (where such alternatives exist). Asbestos waste will continue to be generated at a similar volume in the future as ongoing remodeling of older facilities continues. Although our facilities are virtually Mercury free, small amounts of mercury (i.e. amounts found in thermometers) will continue to be disposed of in the coming years due to our facility's outreach activities in which we offer the general public free digital thermometers if they turn in their mercury thermometers.

CHW hospitals have ongoing programs designed to reduce the quantities of hazardous waste generated, using such approaches as the substitution of non-hazardous or less hazardous materials whenever possible. The responsibility to manage this program is placed on hazardous materials coordinators, safety officers and hazardous waste committees. Best practices in source reduction of hazardous waste at our hospitals are shared throughout the system.

All chemicals used in hospitals are labeled and stored in proper storage containers. Hazardous chemical waste areas are inspected weekly by the Haz-Mat coordinators, and licensed treatment facilities dispose of hazardous waste. A system-wide audit of hazardous waste storage containers this past year found several small but disappointing problems with our waste storage areas. An ongoing audit program has been developed

and improvement is expected for the coming year. Many of our facilities have programs in place to audit their waste disposal vendors.

Some examples of CHW’s progress in reducing waste are included in the following table:

<b>Facility</b>	<b>Waste Management Practice</b>
Bakersfield Memorial Center	Recycles all cardboard and donates proceeds to persons with disabilities
Marian Medical Center	Operates a “reuse” store to give away excess materials to the community With the City and County, sponsored and promoted an electronics disposal day. Usable equipment was donated to the Amateur Radio Emergency Service and the rest was recycled.
Mark Twain St. Joseph’s Hospital	Recycles aluminum cans and donates proceeds to the local lady softball team to provide uniforms
Mercy General Hospital Sacramento	Implemented cardboard, blue wrap, fluorescent tube, and alcohol recycling programs this past year
Mercy Medical Center Mt. Shasta	Increased paper recycling by 2.5 times over last year and battery recycling by a similar amount Implemented a gram stain recovery system to prevent this potentially hazardous material from entering the municipal sewer system.
Mercy Southwest and Westside Hospitals, Bakersfield	Changed to 3M cleaning materials that allowing us to: Consume fewer amounts of cleaning chemicals, Reduce the volume of water required to mix the chemicals Reduce employee exposure to chemicals and injury due to weight lifting Reduce the cost of supplies.
Mercy Medical Center Redding	Recycles paper, cardboard, plastic and wood pallets though the city of Redding with no compensation. The wood pallets are made into compost and sold to the community at a reasonable price while all of the other recycled items with monetary value are placed back into the community to support the recycling efforts and to educate and encourage the public to continue recycling.
Community Hospital San Bernardino	Increased paper recycling by 33%
San Gabriel Valley Medical Center	Implemented a gram stain recovery system to prevent this potentially hazardous material from entering the municipal sewer system. Installed a dry laser digital camera that eliminated the use of fixer (a hazardous material) in the x-ray rooms. This decreased the use of water to cool the now eliminated processors also. Reduced linen use by 2.5 lbs. per patient per day.

Sequoia Hospital	<p>Increased paper and cardboard recycling</p> <p>Replaced Gluteraldehyde (a hazardous material) with non-hazardous Cidex OPA.</p> <p>Donates surplus medical equipment, supplies, and office furniture (and/or proceeds from the “garage sale” of such furniture).</p>
St. Bernadine Medical Center	<p>Increased paper and cardboard recycling by 25%.</p> <p>Implemented the use of brown paper towels for the facility. Brown towels compost quicker than bleached towels in the landfill. Not only were our towels cost savings, but we are using a product that composts faster and has fewer chemicals.</p> <p>Changed to 3M cleaning chemicals allowing us to</p> <p>Consume fewer amounts of cleaning chemicals</p> <p>Reduce the volume of water required to mix the chemicals</p> <p>Reduce employee exposure to chemicals and injury due to weight lifting,</p> <p>Reduce the cost of supplies.</p>
St. Joseph’s Hospital, Phoenix	<p>Uses a solvent distillation system that recycles alcohol and xylene for our laboratory use. Approximate savings is \$6000 in reagent cost alone and our quantity requiring off-site disposal has decreased.</p>
St. Elizabeth Community Hospital	<p>Operates a “reuse” store to give away excess materials to the community</p>
St. John’s Regional Medical Center	<p>Operates a “reuse” store to give away excess materials to the community</p>
St. Francis Memorial Hospital, SF	<p>Created a recycling center for staff to obtain and reuse various items, including office supplies, equipment, and small furniture. Five hundred pieces of larger furniture was reused through a give-away to Community Partners and staff.</p>
Mercy Medical Center Merced	<p>Implemented a gram stain recovery system to prevent the potentially hazardous material from entering the municipal sewer system.</p>
St. Joseph’s Medical Center, Stockton	<p>Shipped obsolete (but usable) medical equipment and supplies to organizations that could use the materials. The estimated value approximated \$200,000. The shipments benefited orphanages in Georgia Russia, Guatemala, and a new "startup" migrant clinic in Linden, California. The materials eliminated approximately 12,000 lbs. of materials which otherwise would have been sent to landfill.</p>
St. Mary Medical Center, SF	<p>Implemented improved processes to control all laboratory chemicals and ensure proper disposal.</p>

Santa Cruz Dominican Hospital	Installed a dry laser digital camera that eliminated the use of fixer (a hazardous material) in the x-ray rooms. This decreased the use of water to cool the now eliminated processors also. Initiated recycling of fluorescent, tubes and the trace mercury within them Researching a source for reusable sharps containers Operates a “reuse” store to give away excess materials to the community Sends used but operating medical equipment to overseas missions
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## **SECTION VI: USE OF ENERGY AND WATER**

We are engaged in many programs to reduce energy and water consumption. While making strides in energy conservation, we also face continual challenges with increased patient loads, new clinical equipment requiring more cooling and physical plant equipment nearing the end of its useful life. CHW is actively involved in a systemwide energy retrofit program aimed at reducing current utility consumption, shifting load to off peak periods and flattening the load profile during high demand time-of-use periods. The program estimated to add approximately \$50M in new energy efficient infrastructure kicked off in October 2001 and is scheduled for full implementation within 3-5 years. Although we have not completed full construction documents for all projects, \$48M in conservation opportunities have been identified at 22 hospitals with anticipated annual savings of \$12M. These projects are estimated to decrease electric consumption by 64M kWh (16%) and natural gas consumption by 119K MMBtu (7%). This program will significantly reduce “Greenhouse gases” through improved energy efficiency (and therefore decreased burning of fossil fuels) and ozone depleting substances through removal of the few ODC containing pieces of equipment remaining in the system.

The Program is underway at the following facilities:

- St. Rose Dominican Hospital – Rose de Lima Campus
- St. Joseph’s Hospital and Medical Center
- San Gabriel Valley Medical Center
- Community Hospital San Bernardino
- St. Bernardine Medical Center
- St. Mary Medical Center, Long Beach
- Mercy Southwest Hospital
- St. Mary Medical Center, San Francisco
- Sequoia Hospital
- California Hospital Medical Center
- Bakersfield Memorial Hospital

Some examples of efforts to implement our Policy include.

**St. John’s Regional Medical Center** has completed a lighting upgrade project, which included replacing the existing ballasts and fluorescent lamps with energy efficient ballasts and lamps and exit signs with LED bulbs throughout the hospital. Additionally, the hospital is better controlling the staging of chilled water during summer periods. This combination of the lighting upgrade and chiller staging has reduced consumption of electricity by 8%.

**Sierra Nevada Memorial** continues to remain a low energy consumer by implementing various improvements. Some of the enhancements include an increased level of control on the Chilled Water to reduce demand and consumption during peak periods, monitoring and turning off corridor lights when not needed, and installation of motion sensors in public areas that are periodically unoccupied.

**St. Joseph's Hospital and Medical Center-Arizona** implemented a program to conserve energy by turning off lights and escalators in non-patient areas at night. Air conditioning temperatures are set at 76 degrees to reduce energy usage and associated expenses. Additionally, St. Joseph will be replacing two chillers with more energy efficient chillers with a projected decrease in consumption of 8%.

**Community Hospital of San Bernardino** renovated their thermal energy storage system and continues to reduce energy consumption with local energy awareness programs. This combined effort has resulted in an 18% energy savings.

**St. Bernadine Medical Center** continues to move forward in a second phase energy efficiency program that includes self generation with waste heat recovery, absorption chiller to reduce load on less efficient chiller and expansion of building automation system providing better control of physical plant equipment.

**Mercy Medical Center Redding** is in the process of replacing two chillers with more energy efficient units. Replacement is anticipated to reduce energy consumption by 4%.

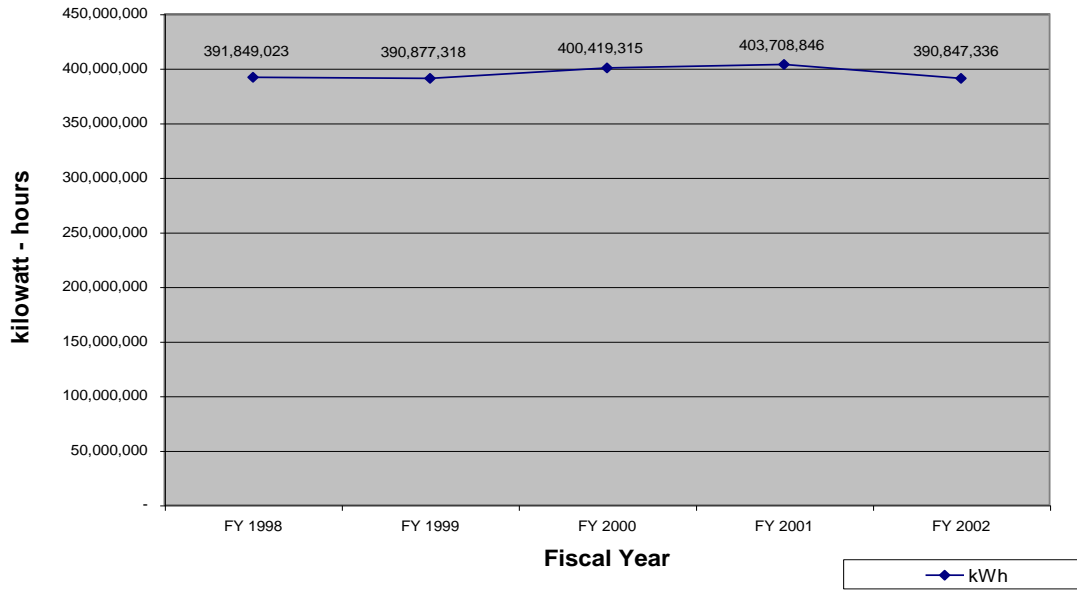
**Mercy Medical Center Mt. Shasta** continues to use ground water to provide for air conditioning needs. Water is then recycled using a local pond system. This helps create wildlife habitat and maintain the local wetlands. This past year, heating fuel oil consumption was reduced by 2% through better management of the heating systems.

**St. Mary Medical Center**, Long Beach, blended natural gas use with soy oil to reduce emissions of ozone depleting hydrocarbons during the periods of natural gas price volatility. Additionally, St. Mary has implemented tighter controls on chiller water production aligning chiller usage with building load as determined by return water temperature. These changes are estimated to decrease energy consumption by 3%.

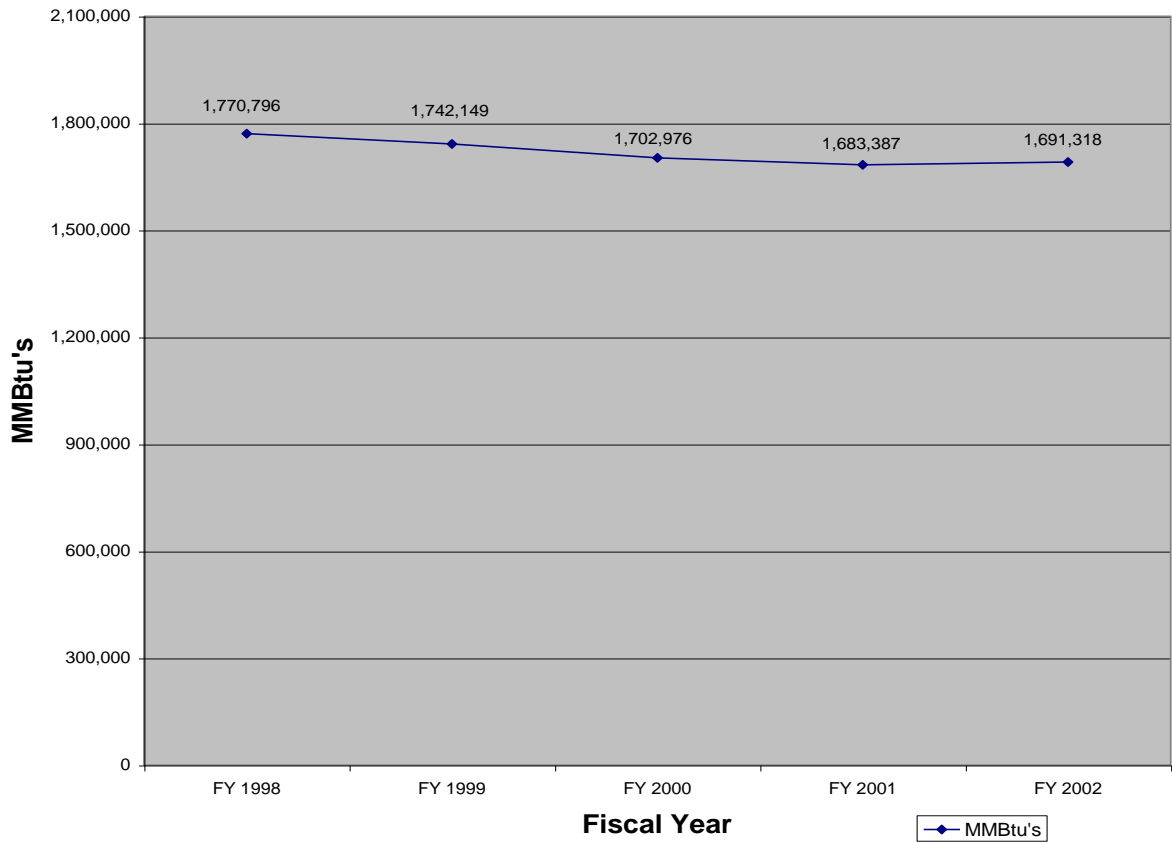
The following graphs demonstrate our electrical and natural gas usage for the past five years. Electric usage decreased by 3% from FY 2001 and natural gas usage increased by 0.5% this year as various energy efficiency programs began to take effect. Over the past 5 years, electrical usage has remained essentially flat, while natural gas usage has decreased about 4%. Further overall energy decreases are expected to occur this year as more efficiency measures are put in place and some older, less efficient facilities are renovated or closed.



### Annual Electric Consumption



### Annual Natural Gas Consumption



## **WATER REDUCTION**

CHW works to reduce water consumption in many ways. All of our facilities are undergoing retrofit to low flow plumbing devices (showers, toilets, etc.). Typically these water devices are replaced using internal resources when existing devices fail. Heating and cooling equipment and steam traps, which also consume large amounts of water, are likewise being retrofitted to more advanced, efficient models. Since many of our facilities are located in areas that are natural deserts, our landscaping is designed to meet state and local low water use requirements.

CHW is continuing the implementation of the Water Saver/Plus program and the sterilizer metering valve conversions to reduce water consumption and waste stream production. These two programs will purchase about 300 devices to attach to wet film processors to reduce the consumption of water needed to develop quality x-rays. Once fully implemented, this program is expected to save 140,000,000 gallons of water (about 90% of the total water currently used for x-ray production) on an annual basis and reduce wastewater production.

CHW also incorporates energy efficiency and building sustainability in all new construction projects. New construction over the next 10 years will grow to unprecedented levels with the need to meet regulatory requirements and continue to serve the public's healthcare needs. CHW strives to meet energy efficiency in new construction through adherence of the Energy Star Building Program and various guidelines contained in CHW's Project Deliver Model.

## **SECTION VII: WORKPLACE HEALTH AND SAFETY**

CHW is committed to providing a safe, healthy, effective, and accessible workplace, consistent with our mission, services, and all applicable governmental regulations. This commitment includes the provision of a physical environment that minimizes hazards and risks to patients, visitors, and our employees.

Healthcare is one of the most heavily regulated and audited industries. Numerous governmental and semi-governmental agencies have promulgated volumes of standards and regulations. To ensure CHW meets and exceeds the requirements of all health and safety codes, and governmental laws and regulations, CHW has developed and implemented a broad range of workplace health and safety programs.

CHW hospitals initially introduce all new employees to our comprehensive health and safety program at “New Hire Orientation.” This is where the hospital discusses health and safety concerns and provides new employees with educational material related to these programs. Continuing education on general health and safety issues is conducted on an ongoing basis. Annually employees attend training sessions that cover such topics as Fire Safety, Emergency Preparedness, Infection Control, Injury & Illness Prevention, Security, and Medical & Utility Equipment. Department managers dedicate a portion of each monthly staff meeting to at least one health or safety related topic.

All CHW hospitals have an active safety committee that provides information to employees through committee minutes. These safety committees track and trend all injury information in order to focus on areas that may be problematic and develop corrective action plans to reduce injuries and accidents. Many hospitals have been successful in placing employees recovering from an injury in a “Return to Work Program” that allows employees to come back to work while recovering from their injury. Our adoption of the microfiltration mopping system in several hospitals has assisted in this program, as this system requires much less lifting strength and has allowed injured employees an opportunity to return to work in a useful capacity in a much more timely manner. In addition, employee involvement plays an essential role in the accident investigation process, often resulting in great suggestions to prevent future incidents.

### **Joint Commission on Accreditation of Healthcare Organizations (JCAHO)**

CHW hospitals are required to obtain and maintain JCAHO accreditation. Founded in 1951, the Joint Commission on Accreditation of Healthcare Organizations is an independent, not-for-profit organization that evaluates and accredits nearly 20,000 healthcare organizations. The Joint Commission is the nation’s predominant standards-setting and accrediting body in healthcare. JCAHO has developed state-of-the-art, professionally based standards and evaluates the compliance of healthcare organizations against these benchmarks. Accreditation by the Joint Commission is recognized nationwide as a symbol of quality that indicates that an organization meets certain performance standards. To earn and maintain accreditation, an organization must undergo an on-site survey by a Joint Commission survey team at least every three years. Environmental, Health and Safety is a major focus of JCAHO, which has incorporated

applicable regulatory requirements for environmental, health and safety into its Environment of Care (EOC) standards.

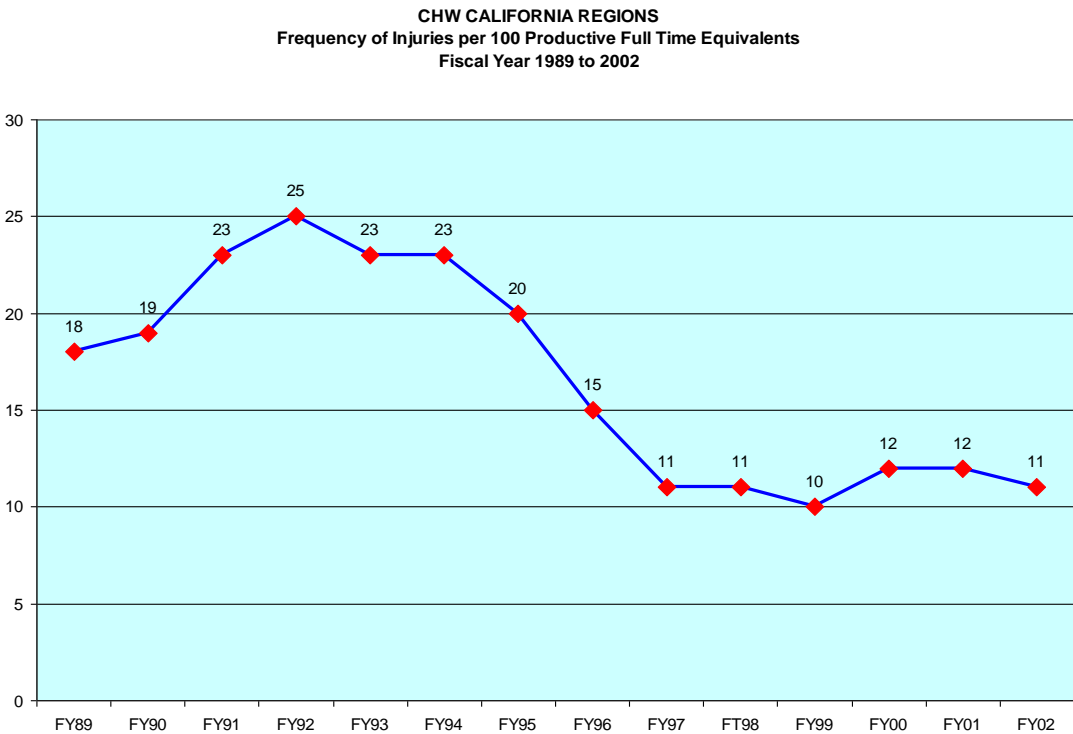
This fiscal year, nine of our hospitals were surveyed by JCAHO. All have been granted accreditation status for another three years with average scores over 90%.

**OSHA Activities Systemwide:**

OSHA and Cal-OSHA continue to inspect our hospitals. OSHA Enforcement Units have jurisdiction over every place of employment. They ensure that every employer is in compliance with OSHA’s occupational safety and health standards and regulations. These OSHA Enforcement Units conduct inspections of workplaces in response to a report of an industrial accident, a complaint about an occupational safety and health hazard, or as part of an inspection program targeting industries that have a high rate of occupational hazards, injuries or illnesses. In fiscal year 2002, CHW had one of its hospitals inspected by OSHA Enforcement Units. No fines were levied as a result of this inspection. This is a noticeable difference as compared with 2001 when there were eight such inspections that resulted in fines.

**OSHA 300 Log**

The frequency of claims per full-time employee over the past three years has remained essentially constant.



CHW-Risk Services has developed many programs designed to reduce frequency and severity of occupational injuries and illness. These include:

- Claims audit protocols to monitor the high exposure claims

- ❑ Nurse case management utilization guidelines
- ❑ Return to work program guidelines
- ❑ Representative job analysis library
- ❑ Accident investigation protocol
- ❑ Physician education designed to augment providers' knowledge of workers' compensation
- ❑ Worker's Compensation Reduction program
- ❑ Focused claim reviews
- ❑ Multi-forum claims handling strategy

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## **SECTION VIII: EMERGENCY RESPONSE AND PUBLIC DISCLOSURE**

Providing emergency medical services is something that our hospitals do day in and day out. In addition to these services, we also are prepared to provide emergency response to a variety of external and internal disasters. This is part of our commitment to continue to provide care and treatment to the communities we serve in times of crisis. Our hospitals employ professional highly trained and experienced emergency response personnel. Each hospital has specific response plans, which include keeping our neighbors informed of our response activities.

### **Emergency Preparedness**

Each CHW hospital maintains an Emergency Preparedness Committee that works with civil authorities and local Emergency Medical Service organizations to ensure we plan together, and coordinate our efforts when responding to community disasters. These committees also monitor training and conduct drills with emergency response agencies to assure a well planned and efficient response is carried out in times of emergency. Newly developed policies and procedures provide for certain accommodations to the community during disasters, such as providing additional medical support to people in the community and working with the local chapter of the Red Cross to provide shelter and care.

Preparedness is CHW's strategy for successfully responding to emergencies. CHW emphasizes emergency preparedness through a high level of coordination among hospital departments, involving Security, Housekeeping, Engineering, and Environmental Services. In addition, many of our hospitals have arrangements in place with response contractors in the event that extra assistance is needed for a larger emergency. By nature of being medical facilities, CHW hospitals have close relationships with fire, ambulance, police, and rescue services. Many facilities invite outside agencies to participate in their internal disaster meetings. CHW builds on these relationships with regularly scheduled joint training exercises and drills.

All facilities including Nevada and Arizona have practiced various levels of responses to terrorist attacks using chemical, biological and nuclear agents. The California facilities are planning on participating in the Statewide Drill in November 2002. Theme of the statewide exercise is a radiation (dirty bomb) terrorist event.

The hospital emergency response plans include procedures for chemical spills. Each hospital has developed and trained staff, or contracted with vendors to respond to both large and small chemical spills. Staff is taught to safely identify and isolate a spill and then to notify appropriate authorities. Hospitals maintain up-to-date information on chemicals and other materials that emergency personnel may encounter in an emergency response. CHW hospitals annually update their chemical inventories with the appropriate local agency identifying locations and average on-hand daily quantities. Material Safety Data Sheet binders are maintained for all required chemicals.

### **Community Outreach**

Our Environmental Policy states: “We will inform in a timely manner those persons who are adversely affected by conditions we cause, and of the measures and safeguards we have implemented to guard health, safety and the environment. We will regularly seek advice and counsel through dialogue with persons in communities near our facilities.” Fortunately, only limited quantities and types of potentially hazardous materials must be used in our hospitals. Consequently, our operations have negligible, if any, potential impact on our neighbors. Still, all of our hospitals have procedures to answer questions and provide information to community groups in our neighborhoods. Many of our hospitals have broad-based outreach efforts to promote wellness, participate in community activities such as recycling and reuse of materials, and explain hospital operations.

### **Spills**

CHW Risk Services monitors spill records for all of our hospitals. In FY2002, there was no spill that required a reporting or release notification to local government. Most spills that occur are small (less than one gallon) and are contained within a single room. Employees are trained to safely manage and properly clean-up small releases of chemicals and if necessary to make appropriate notifications to emergency response agencies. For larger chemical spills, hospitals maintain a trained, in-house Haz-Mat response team, or contract with a Haz-Mat response company to ensure immediate response.

### **Public Disclosure**

While formal regulatory actions and JCAHO evaluations are available to the public, CHW hospitals have been inconsistent with regards to what internal performance and compliance information they release to the public. CHW has identified this as an issue and will work with the facilities to provide more defined guidelines on the level of openness we hope to achieve with our neighbors.

## SECTION IX: STEWARDSHIP OF SERVICES PROVIDED

CHW is acutely aware that, while our hospitals provide a vital service to the community, they also have an impact on that community by their very presence. Our means of reducing those impacts are discussed elsewhere in this report, but a few of those efforts are listed below.

- Management and reduction of solid, medical, and hazardous waste
- Removal of mercury, and hopefully soon of PVC, from our waste streams
- Implementation of Green Purchasing and Green Building programs
- Energy and water reduction programs
- Removal of equipment which contains ODCs
- Donation of excess but usable equipment and commodities to charities at home and abroad

In addition, we actively participate in our communities to promote wellness. Examples include:

Facility	Community Activity
St. Joseph's Hospital and Chandler Regional Medical Center	<ul style="list-style-type: none"> <li>• Assisted in developing city-wide hazardous spill response plans and hazardous materials removal campaigns;</li> <li>• Provided a \$205,000 low-interest loan to homebase Youth Services in Phoenix, Arizona enabling the organization to help fund low-income housing for runaway or homeless youth.</li> </ul>
Glendale Memorial Hospital	<ul style="list-style-type: none"> <li>• Works with City Community Services to look for employment for challenged individuals. This year one of the individuals was hired away from City Community Services and is now employed by Glendale Memorial.</li> </ul>
Merced Medical Center	<ul style="list-style-type: none"> <li>• Partnered with Merced County Association of Governments on a community-wide environmental awareness day</li> </ul>
Mercy Medical Center Redding	<ul style="list-style-type: none"> <li>• Donates older cellular phones to the elderly for 911 emergency use</li> <li>• Sponsored a "fun Run" to raise funds to create a new park</li> <li>• Donated funds for a new slide for the community pool</li> <li>• Donated funds to support the new Shasta County Library</li> <li>• Contributed \$20,000 per year for a three-year program to reduce youth violence.</li> </ul>
St. Elizabeth Community Hospital	<ul style="list-style-type: none"> <li>• Sponsored a community-wide Health Faire, Earth Day recognition event, and anti-smoking events.</li> </ul>
Sequoia Hospital	<ul style="list-style-type: none"> <li>• Donated about \$2,000 worth of furniture to Samaritan House, a free clinic servicing the uninsured in Redwood City.</li> <li>• Supports anti-smoking campaigns for children</li> </ul>
St. Joseph's Medical	<ul style="list-style-type: none"> <li>• Participated in planning and implementing a city sponsored domestic preparedness program (Metropolitan Medical Response</li> </ul>



Center Stockton	System--MMRS). An exercise was conducted to assess the status of our county and region's readiness in the event of a "Weapons of Mass Destruction Effort."
St. Rose Dominican	<ul style="list-style-type: none"> <li>• Launched a program to provide healthcare services to underserved local public school children of the working poor.</li> </ul>
Northridge Hospital (Sherman Way)	<ul style="list-style-type: none"> <li>• Launched a program to provide 24-hour, seven-days-a-week access to free clinical assessments, emergency intervention and/or referral services to nearly 10,000 persons annually throughout Los Angeles County.</li> </ul>
CHW Corporate	<ul style="list-style-type: none"> <li>• Provided a grant to the Asian &amp; Pacific Islander Wellness Center to help educate, empower and advocate Asian and Pacific Islander communities, particularly those living with or at risk for HIV/AIDS.</li> </ul>
Numerous Facilities	<ul style="list-style-type: none"> <li>• Participate in local area litter and graffiti removal programs</li> <li>• Collect used needles from anyone in the community to ensure proper disposal</li> </ul>

## **SECTION X: SUPPLIER RELATIONSHIPS**

CHW hospitals work with suppliers and vendors to maximize the environmental enhancement of products and services we purchase. CHW's Environmental Policy articulates our commitment to use environmentally responsible products. As an example, representatives from our hospitals conduct physical evaluations of some supplier's facilities and work cooperatively with others to develop environmentally preferable products, materials, packaging and processes. They periodically review the supplier's hazardous waste disposal procedures, use of chemicals in products, use of chemicals in manufacturing, product packaging, and product use. Finally, to the degree feasible, we prohibit the use of ODCs (ozone-depleting chemicals), and encourage ODC-free materials, in our vendors or contractors' processes and products.

Vendors evaluated and accepted for their environmentally friendly practices include:

- Allegiance Healthcare
- Angelica Textile Service
- Baxter
- Boise Cascade
- Office Depot
- Angelica Textile Service
- Georgia Pacific
- Redwood Office Supply
- Steris
- Novamatrix (add)
- Vanguard Medical Concepts
- Huntleigh
- 3M Commercial Care

Our commitment to promoting healthier communities both locally and globally compels our hospitals to respect and protect Earth and to support just, sustainable social and economic development. CHW hospitals search for new and better ways to meet their environmental goals through conservation, reduction, reuse, recycling, and redesign. Adherence to these principles will ensure consistent, measurable progress at our hospitals to respect and protect the earth for all peoples and future generations. These principles guide CHW hospital's internal practices and its healthier community initiatives.

In an effort to minimize environmental damage to the air, water, earth or persons CHW hospitals:

- ✓ Use environmentally responsible products as much as possible and reduce and make continual progress toward eliminating the use of any substance that causes environmental damage or health or safety hazards (e.g., mercury, ODCs, ethylene oxide, PVC).
- ✓ Make sustainable use of renewable natural resources and conserve nonrenewable natural resources through efficient use and careful planning.
- ✓ Reduce and, where possible, eliminate waste through product and packaging source reduction, reuse and recycling.

CHW is committed to improve environmental management, and to collaborate with suppliers and others in the community to safeguard the environment. Supply Chain Management works to:

- Educate business partners and CHW's group purchasing organization to our EPP principles and CHW environmental mission
- Add EPP language to CHW contracts
- Develop EPP questions for business partner response and holding business partners accountable for an annual review and reply to SCM
- Educate CHW hospital managers about EPP principles for use with local contracts
- For employees and patient safety, educate CHW staff about potential hazards of products used in our hospitals.
- Educate Supply Chain Management councils and teams about enterprise-wide environmental stewardship activities by requesting and receiving feedback from hospital

## **SECTION XI: HEALTH, SAFETY AND ENVIRONMENTAL AUDITS**

CHW continues to monitor our environmental health and safety (EHS) programs. Five key components are measured to assess compliance:

1. Implementation of our systemwide policy
2. Establishment and operation of Environmental Action Committees
3. Setting specific, measurable goals and objectives toward environmental excellence
4. Collecting key data to enable us to measure our progress
5. Status of regulatory compliance.

### **Different Approaches**

Internal audits take on different configuration at each hospital. However, all ensure that a formal internal audit is conducted at least twice a year. Audit results are reported to the hospital safety committee or the Environment of Care (EOC) committee, deficiencies are documented and corrective action is taken.

Many of our hospitals shape their audit efforts around the JCAHO Environment of Care inspection program and use an interdepartmental team comprised of the safety officer, employee health nurse, infection control nurse, environmental services manager, biomedical technician, and engineering to review all hospital areas. Audits cover:

- Proper storage of sterile, clean, dirty, and hazardous materials
- Universal health precautions
- Hand washing
- Infection control
- Work environment
- Medication security and storage
- Chemical usage and storage
- Area security
- Fire procedures
- Emergency preparedness
- Biological, chemical and nuclear terror preparedness
- General safety
- Ergonomics
- Medical equipment
- Waste storage and disposal
- Utility, and
- General condition of facility

The wide range of subjects covered in CHW's audit review shows that concern for an excellent hospital environment overlaps with CHW's concern for environmental considerations in the larger scheme. Both are addressed as the Environment of Care team scores inspection results on a written form, which is reviewed by department managers. Corrective actions required within certain periods are specified.

**CHW Risk Services**

CHW Risk Services conducts comprehensive three-day audits that evaluate a hospital's compliance against JCAHO, Department of Health Service, OSHA, and Environmental Protection Agency standards. This assessment consists of a formal review of the hospital's management plans, policies and procedures, training records, drills and exercises, safety committee activities, performance improvement measures, and a physical inspection of the facility. At the end of the assessment senior leadership, directors, managers, and staff are presented with the finding. Any areas that need improvement, along with areas that are found to be in non-compliance, are noted. The hospital is requested to design an action plan that specifies the necessary measures to ensure all identified deficiencies are addressed and plans for improvement are developed. A total of nine CHW hospitals were surveyed in FY2002.

## **SECTION XII: COMPLIANCE**

Healthcare delivery is subject to numerous statutes. Some of those at the federal level include:

- Resource Conservation and Recovery Act
- Clean Air Act
- Clean Water Act
- Safe Drinking Water Act
- Toxic Substances Control Act
- Emergency Planning and Community Right-to-Know Act
- Occupational Safety and Health Act

There are many more requirements at the state and local level to regulate CHW hospitals. California is one of the most highly regulated states in the country and our hospitals are required to comply with numerous State and County agencies. Compliance with these requirements requires ceaseless adherence to rules, permits, recordkeeping and reporting. CHW applies the same high standard of care to compliance as we do to our patients' health and wellness. Many of the procedures and systems used for delivering healthcare are mirrored in our compliance programs. CHW is committed to maintaining compliance throughout our entire system of hospitals and administrative facilities.

CHW is pleased to report yet another outstanding year in environmental regulatory compliance, as we had only one "Notice of Violation" from environmental regulatory agencies this past year. However as reported in Section VII, CHW had one of its hospitals inspected by OSHA. The OSHA visit was related to 24-hour availability for trained engineers to monitor the Boilers. The facility responded to the violation by training all engineers on monitoring the Boilers. No monetary fines were levied.

While each hospital strives to provide an environment that is safe and healthy, we recognize that at times we may fall short of the mark. However, we never fail to respond quickly and work toward solving problems and improving our programs. OSHA, particularly CalOSHA, has increased its focus on healthcare organizations over the last few years. This is primarily due to the increased concerns relative to bloodborne pathogens and revised standards to address needle stick injuries. CHW, along with most healthcare organizations, has invested heavily in needle safe devices in an effort to reduce this potentially serious hazard. We will continue to review and fine tune our health and safety programs to not only ensure compliance but more importantly to protect our employees from hazards in their work environment.

### **Environmental Health and Safety (EH&H) Compliance Program:**

Key to any EH&S compliance program is developing and implementing systemwide EH&S policy and standards. The policy defines the organization's strategic goal as it relates to EH&S and sets the overall tone for the compliance program. Standards are developed to define the "what" of the program, while facility-specific policies and procedures define "how" a facility will implement and maintain the program. The CHW policy and standards must be consistent throughout CHW to comply with the regulatory agency guidelines, but the procedures can vary among the various facilities.

CHW Risk Services is developing CHW's formal EH&S Policy and Standards in a prioritized manner based on set criteria including:

- ◆ Risk of injury to employees, patients or harm to the environment
- ◆ Adverse public perception
- ◆ Financial disincentives
- ◆ Potential regulatory scrutiny

Standards are being developed for facility-based policies and procedures, education and training materials and facility self-assessment tools. These documents will not only help define the programs, but will assist hospitals in improving their environmental, health and safety programs.

While the primary focus of this program is regulatory compliance, program elements will also assist hospitals in meeting the JCAHO Environment of Care standards, provide a framework to support injury and illness reduction efforts and to operationalize our systemwide ecology commitment and CERES endorsement.

## **APPENDIX A: Environmental Policy and Statement of Principles**

### **CATHOLIC HEALTHCARE WEST**

#### **POLICY & PROCEDURE**

**FROM:** CHW Board of Directors

**SUBJECT:** **Environmental Policy and Statement of Principles**

**ISSUED:** *July 16, 2002*

**EFFECTIVE:** *July 16, 2002*

**REPLACES:** CHW 6.50, March 19, 1996

#### **I. PURPOSE**

To articulate Catholic Healthcare West's commitment to respect and protect Earth and its endorsement of the CERES Principles for environmental protection and conservation.

CERES, the Coalition for Environmentally Responsible Economies, is a non-profit organization comprised of leading social investors, environmental groups and public entities. CERES promotes environmentally responsible economic activity for a just, healthy and sustainable future throughout the world. The CERES Principles provide a model corporate code of environmental conduct. Companies that endorse the CERES Principles pledge to monitor and improve their environmental practices. These companies conduct an internal environmental audit and complete an annual public report according to a standard format.



## **II. POLICY**

Catholic Healthcare West manages its operations in a manner demonstrably protective of human health and the environment. CHW seeks new and better ways to meet its environmental goals through conservation, reduction, reuse and recycling programs. CHW is committed to improving environmental management in its hospitals and to partnering with others in its community to safeguard the environment.

## **III. PRINCIPLES**

These principles, known as the CERES Principles, guide CHW's internal practices and its healthier communities initiatives. Adherence to these principles will ensure consistent, measurable progress in CHW's efforts to respect and protect Earth for all peoples and future generations.

- A. In an effort to minimize environmental damage to the air, water, earth or persons, we will:
  - Use environmentally responsible products as much as possible, and
  - Reduce and make continual progress toward eliminating the use of any substance that causes environmental damage or health or safety hazards.
- B. We will make sustainable use of renewable natural resources. We will conserve non-renewable natural resources through efficient use and careful planning.
- C. We will reduce and, where possible, eliminate waste through product and packaging source reduction, re-use and recycling. All waste will be handled and disposed of through safe and responsible methods.
- D. We will conserve energy and improve the energy efficiency of our operations. We will make every effort to use and promote environmentally safe and sustainable energy sources.
- E. We will strive to maximize the health and safety of our employees through maintaining the health of the environment in which they work. We will

maintain safe technologies, facilities and operating procedures and effective emergency preparedness programs.

- F. We will promptly and responsibly correct conditions we might cause that endanger health, safety or the environment. To the extent feasible, we will redress injuries we might cause to persons or damage we have caused to the environment.
- G. We will inform in a timely manner those persons who are adversely affected by conditions we cause and of the measures and safeguards we have implemented to guard health, safety and the environment. We will regularly seek advice and counsel through dialogue with persons in communities near our facilities.
- H. We will make collaborative education and training programs available within our communities so that everyone has an opportunity to participate in implementing these principles.
- I. We will develop processes for self-evaluation of our environmental practices and prepare an annual report on our progress in implementing this environmental policy.

*Disclaimer: These Principles establish an environmental ethic with criteria by which environmental performance can be assessed. In endorsing these principles, CHW pledges to go voluntarily beyond the requirements of the law. The terms may and might are not meant to encompass every imaginable consequence, no matter how remote. Rather, these Principles obligate CHW to behave as prudent persons who are not governed by conflicting interests and who possess a strong commitment to environmental excellence and to human health and safety. These Principles are not intended to create new legal liabilities, expand existing rights or obligations, waive legal defenses, or otherwise affect the legal position of CHW.*

#### **IV. PROCEDURES**

A. ENVIRONMENTAL ACTION COMMITTEE - An Environmental Action Committee, appointed by each hospital's President, is responsible for:

1. Establishing annual goals for improved environmental performance,
2. Monitoring progress toward those goals,
3. Submitting quarterly and annual reports to the hospital community board and the CHW board of directors,
4. Overseeing implementation of the environmental policy,
5. Educating employees on environmental issues, and
6. Seeking opportunities to partner with others in the community in support of ecological projects and advocacy initiatives.

The Environmental Action Committee (EAC) may be an independent committee or a sub-committee of the Health and Environment of Care/Safety Committee. Optimally, the EAC includes representation from:

Patient Services	Pharmacy
Mission Services	Infection control
Community Benefit	Laboratory
Risk	Safety and security
Purchasing	Administration
Engineering	Employees who show a
Maintenance	particular interest or desire to
Housekeeping	assist
Dietary	

The EAC meets regularly, keeps minutes of its meetings and reports to the Community Advisory Board on key environmental issues.

B. ENVIRONMENTAL LEADERSHIP - CHW and its hospitals will work to become environmental leaders among health care providers. We will establish and maintain environmental programs that will be viewed as state-of-the-art within the health care industry and the healthier communities' movement.

- C. LEGAL COMPLIANCE - Each hospital will comply with all applicable environmental laws. Upon discovery of any issue of non-compliance, the facility shall act immediately to remedy the situation and notify the CHW Legal Department.
- D. RISK CONTROL - Each hospital will actively avoid unacceptable risks to the environment and will minimize risk to the System from previous, existing and potential environmental conditions.
- E. WASTE MINIMIZATION - Each hospital will pursue systematically opportunities to minimize the quantity and degree of waste that results from its activities. Each hospital will initiate processes to achieve applicable percentages and timelines for reducing solid waste generation.
- F. ENERGY USE MINIMIZATION - Each hospital will monitor and evaluate its energy usage and will implement goals and procedures for increased energy efficiency.
- G. ENVIRONMENTAL COORDINATORS AND MANAGERS - The Environmental Action Committee, Product Review Committee, and Environment of Care/Safety Committee shall seek input and provide direction, guidance, and resource recommendations to the hospital President for approval which are designed to assure successful implementation of hospital and system goals and objectives in environmental health.
- H. The director/manager and supervisors of each department will assure successful implementation of hospital/system goals and objectives in support of a healthy environment as well as compliance with laws directly associated with his/her particular functions and services.
- I. TRAINING AND AUDIT - Each hospital will participate in environmental training, awareness, and audit programs.
- J. BENCH MARKING/SHARING OF BEST PRACTICES - Opportunities for systemwide sharing of best practices will be provided on a regular basis.
- K. ENVIRONMENTAL REPORT - As part of the commitment to this Policy, each hospital will submit quarterly and annual environmental reports to its Community Board of Directors and to the CHW Board of Directors. Hospital reports will be compiled in a systemwide report that will be available to the public.

## **APPENDIX B: Elimination Of Mercury**

### **CATHOLIC HEALTHCARE WEST POLICY & PROCEDURE**

**FROM:** CHW Board of Directors

**SUBJECT:** Elimination of Mercury

**ISSUED:** *January 29, 2001*

**EFFECTIVE:** *January 29, 2001*

#### **I. PURPOSE:**

To align CHW operations in a manner demonstrating accountability for human and ecological resources and to protect human health and its environment. To enable CHW hospitals to meet mercury level standards established by the U. S. Environmental Protection Agency and the American Hospital Association.

#### **II. POLICY:**

Products and processes containing mercury shall not be used in any manner on CHW property, including within CHW hospital buildings and medical office buildings, unless no reasonable alternatives as determined by CHW are available. When use of a mercury- containing product is permitted, measures shall be taken to inventory the product or device and its location within the facility and to take proactive actions to mitigate environmental exposure. Compliance with this policy and its procedures is a condition of employment and a condition of the exercise of clinical privileges or the use of any CHW property. CHW supports retirement of mercury and mercury compounds as the long-term elimination process.

#### **III. BACKGROUND:**

Elemental mercury and some mercury compounds are listed in state and federal regulations as hazardous wastes, known to cause certain health problems in humans and animals. Mercury is a liquid metal that is environmentally persistent and bioaccumulates in the food chain. Therefore, CHW is implementing this policy to prevent mercury from entering the environment through wastewater or other waste streams, and eliminate its use wherever possible in healthcare.

In June 1998, a Memorandum of Understanding (MOU) between the U. S. Environmental Protection Agency and the American Hospital Association established goals of virtually eliminating mercury-containing waste from the healthcare industry waste stream by the year 2005, and reducing total waste generated by hospitals 33 percent by year 2005 and 50 percent by year 2010. It is CHW's goal to purchase, whenever feasible, mercury-free products that do not compromise patient care.

#### **IV. Procedure:**

1. CHW Hospitals shall identify an organizational structure, responsibilities, practices, procedures, processes, and resources for developing, implementing, and maintaining a mercury elimination policy.

2. CHW Hospitals shall perform a systematic, documented, periodic and objective review of facility operations and practices related to meeting mercury elimination policy requirements.

3.1. Each CHW Hospital's Departments of Engineering, Environmental Services, Purchasing, Pathology, Radiology, and its Safety Committee shall work together to identify products or processes containing mercury currently in use on the Hospital campus and to identify acceptable alternatives. A list of such products/processes and their alternatives shall be presented to the Safety Committee, which shall arrange for its distribution throughout the Hospital community. The Safety Committee shall assign a coordinator to oversee that this assignment is completed, documented and tracked.

4.2. When mercury containing products or processes are identified, the Hospital Safety Officer or manager(s) for the department(s) using such products/processes shall develop a plan to include:

- a. timeframe for the elimination of the use of these products/processes or,
  - in the alternative, the rationale for continued use of such products/processes.
  - the location of (mercury) -containing devices within the facility
- b. employee training covering risks and hazards, personnel exposure response notification, spill clean up procedures and compliance requirements,
- c. proper labeling, storage, transportation and disposal procedures,

- d. procedures for the prevention of mercury environmental exposure,
- e. procedures for handling mercury spills.

5.3. The Safety Committee shall review all mercury use plans and may approve the plans as submitted or with modification.

6.4. CHW Hospitals should recycle mercury whenever possible.

## **V. REPORTING REQUIREMENTS:**

1. The initial mercury inventory from an audit of the facility and efforts of mercury elimination and related costs, including the initial mercury facility audit and inventory, the cost of spills, shall be part of each Hospital's annual environmental report.
2. CHW shall request its suppliers to represent and warrant in the submission of any proposal or purchase agreement that the products represented in the proposal or purchase agreement do not contain mercury, except as identified and listed in an exhibit. The Supplier shall specify the amount of mercury contained in any products listed in its exhibit and indicate in its Proposal or Purchase Agreement if a feasible mercury-free alternative is available. Materials management staff shall request the same warranties for all substitute or "like" products offered by suppliers.

## **VI. RECORD KEEPING:**

1. Managers of departments using mercury-containing devices, products, or processes shall maintain a readily retrievable log of the mercury-containing devices, products, or processes, the approved use(s), the alternatives considered, the reasons such alternatives were deemed unacceptable, and a time frame for reconsideration of available alternatives.
2. In the event of a mercury spill, employees and physicians shall follow the procedures of the Hospital Policy "Handling of Mercury Spills". Managers shall report such spills to the Safety Committee for review.

**MERCURY APPENDIX A**

**Hospital products containing mercury and available alternatives and contracted suppliers.**

<b>CATEGORY</b>	<b>APPLICATION</b>	<b>ALTERNATIVES</b>
ANALYTICAL INSTRUMENTS (mercury chloride as reagent)	Sequential Multi-Channel Auto-analyzer (SMCA) AU 2000	Ion Selective Electrode
AUTO-ANALYZERS	Autodelfia Iris Cotter Technicon H2 Hitachi Chem-Array Chem-IMX-1 Chem-IMX-2 Chem-654 Chem-Autodelfia Chem-SEC 6 HEME MDA	
<b>CATEGORY</b>	<b>APPLICATION</b>	<b>ALTERNATIVES</b>
BAROMETERS	weather condition	Bourdon tube gauge
BATTERIES mercuric oxide silver oxide in: alkaline, zinc carbon, silver oxide, zinc air, mercury zinc batteries	hearing aids pacemakers defibrillators fetal monitors holter monitors pagers picker calibers spirometer alarms telemetry transmitters temperature alarms blood analyzers	mercury-free lithium, zinc, alkaline
BLOOD GAS ANALYZER REFERENCE ELECTRODE	Radiometer (brand)	equipment without a mercury reference electrode
DC WATT HOUR METERS	E.g., Duncan, no longer made but may still be in use	
DISPLACEMENT/PLUNGER RELAY	power supply switching lighting electric commercial appliances	
ELECTRON MICROSCOPE	mercury used as vibration damper	
ESOPHAGEAL DILATORS (Maloney/Hurst Bougies) CANTOR TUBES MILLER ABBOTT TUBES FEEDING TUBES	mercury used as a weight	tungsten, water- used as weight, Anderson Tube can replace Cantor tube
FLAME SENSOR/SAFETY VALVE stainless steel bulb, capillary tube,	main gas burners w/ standing pilot or elec. ignition pilot <ul style="list-style-type: none"> <li>• some infrared heaters (component</li> </ul>	Non-mercury sensors



bellows/control device	<p>supplied by Robert Shaw and Harper-Wyman)</p> <ul style="list-style-type: none"> <li>• Some furnaces (components supplied by White Rodgers)</li> <li>• Commercial kitchen appliances</li> </ul>	
HITACHI CHEM ANALYZER	Hitergent Reagent has 65 ppb mercury	
LAMPS	<p>fluorescent          bilirubin blue          gen. purpose          high output          germicidal lamps          cold cathode          hot cathode          slimline          metal halide high pressure sodium vapor          mercury vapor ultra-violet (for TB) spectral lamps</p>	high intensity discharge, low mercury fluorescent
LEAD ANALYZER ELECTRODE	ESA (brand) model 3010B	
MANOMETERS	commercial, industrial & laboratory	Bourdon and electronic gauges
SPHYGMOMANOMETERS	blood pressure	electronic vacuum gauge, expansion, aneroid
RELAYS and SWITCHES	<p>TILT SWITCHES:</p> <ul style="list-style-type: none"> <li>• airflow/fan limit control</li> <li>• building security systems</li> <li>• chest freezer lid switches</li> <li>• fire alarm box switches</li> <li>• fluid level controls</li> <li>• laptop computer screen shutoff</li> <li>• pressure control</li> <li>• silent light switches</li> <li>• temperature controls</li> <li>• thermostats (rooms &amp; refrig's)</li> <li>• washing machine lids</li> </ul>	<ul style="list-style-type: none"> <li>• mechanical and solid state relays</li> <li>• mechanical switches</li> <li>• positive beam limitation switches</li> </ul>
THERMOSTATS	<ul style="list-style-type: none"> <li>• ovens (laboratories)</li> <li>• nursing incubators</li> <li>• room temperature control</li> </ul>	<ul style="list-style-type: none"> <li>• thermostat with bi-metallic strip</li> <li>• electronic</li> </ul>
THERMOMETERS	<ul style="list-style-type: none"> <li>• blood bank</li> <li>• Clerget sugar test</li> <li>• body temperature</li> <li>• incubator/water bath</li> <li>• min/max</li> <li>• tapered bulb (armored)</li> </ul>	<ul style="list-style-type: none"> <li>• electronic (digital)</li> <li>• non-mercury filled</li> </ul>

Source: <http://www.epa.gov/region01/steward/neeat/mercury/invent.html>

Complied from Minnesota, MASCO, Terrene Institute October 13, 1998

Modified by California DHS Environmental Management Branch, 2001

## **MERCURY APPENDIX B**

**Licensed/permitted mercury retorters/recyclers in CA, NV & AZ.**

**AERC Com, Inc.**  
**30677 Huntwood Avenue**  
**Hayward, California 94544**  
**1-800-628-3675, 1-510-429-1129, Fax #: 1-510-429-1498**

Hayward California Facility  
Servicing the West Coast

Account Representative:  
Miguel Gutierrez  
E-mail [mgutierrez@aerc-mti.com](mailto:mgutierrez@aerc-mti.com)

Customer Service Representative:  
Brienne Crawford  
E-mail [bcrawford@aerc-mti.com](mailto:bcrawford@aerc-mti.com)

1-800-628-3675, 1-510-429-1129, Fax #: 1-510-429-1498

### **AERC Acceptable Materials**

Fluorescent Lamps (intact & crushed)  
High Intensity Discharge Lamps  
Arc Lamps, Ultra-Violet Lamps  
Compact Fluorescent Lamps  
High Pressure Sodium Lamps  
Mercury Vapor Lamps  
PCB, Non-PCB and DEHP Ballast  
Ignitron Tubes  
Neon Lamps  
Batteries (ALL types)  
Mercury Contaminated Soil  
Mercury Solutions  
Debris Containing Mercury  
Esophageal Bougies  
Intestine Miller Abbott Tubes  
Mercury Contaminated Glassware  
Thermometers, Manometers  
Regulators, Thermostats  
Metallic Mercury  
Metallic Mercury and Water  
Mercury Switches and Relays  
Mercury Salts and Compounds  
Phosphor Powder (profile requested)

Hayward, CA 1-800-628-3675

**Salesco Systems USA**  
5736 West Jefferson  
Phoenix Arizona, 85043  
**Toll Free:** 800 368-9095  
**Fax:** 602 233-6883  
**Contact:** Erin Moore

Salesco Systems USA has developed state of the art "retort" technology that uses advanced mechanical and thermal process to capture the highest levels of mercury available, and at the same time recover valued by-product materials for recycling. Salesco Systems' mercury retort process is designed to capture mercury generated from industrial and medical sectors.