Name of Organization: Western Lake Superior Sanitary District

Type of Organization: Sub-state or Special Purpose District

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Project Title: Achieving Zero Discharge in Healthcare

Project Category: Pollution Prevention

Rank by Organization (if applicable): 0

Total Funding Requested ($) 60,000.00 **Project Duration:** 1 Years

Abstract:

According to the United States Environmental Protection Agency, medical waste incineration is the second largest source of dioxin emissions and fourth largest source of mercury emissions to the environment The extensive use and disposal of chlorinated plastics, and the inappropriate disposal of mercury containing medical devices in medical waste are contributing factors to these emissions. A major roadblock to achieving Zero Discharge in the medical community is the healthcare product market controlled by General Purchasing Organizations (GPOs). Typically GPOs of offer only one product line and prohibit or penalize member hospitals that might wish to purchase other products, including those that might be less toxic. A multi-stakeholder process will work with or GPOs to identify successful models which allow for the purchase of less toxic materials by the healthcare community, and to provide the healthcare community with pollution prevention practices to eliminate the discharge of mercury and dioxin.

Geographic Areas Affected by the Project

States:

- ☐ Illinois
- ☐ Indiana
- ☐ Michigan
- ☒ Minnesota
- ☐ New York
- ☐ Ohio
- ☐ Pennsylvania
- ☐ Wisconsin

Lakes:

- ☒ Superior
- ☐ Huron
- ☐ Michigan
- ☐ Erie
- ☐ Ontario
- ☐ All Lakes

Primary Affected Area of Concern: St. Louis River, MN

Other Affected Areas of Concern:

For Habitat Projects Only:

Primary Affected Biodiversity Investment Area:

Other Affected Biodiversity Investment Areas:

Problem Statement:

According to the United States Environmental Protection Agency, medical waste incineration is the second largest source of dioxin and the fourth largest source of mercury emissions to the environment. The extensive use and subsequent incineration of disposable chlorinated products such as polyvinyl chloride (PVC) IV bags and inappropriate disposal of mercury waste are significant contributing factors to these emissions.

There are two major roadblocks achieving Zero Discharge of mercury and dioxin in the medical community. While many hospitals are beginning to appreciate the serious environmental concerns surrounding mercury, still others do not. The issue of PVC use and its' contribution to the formation of dioxin during manufacture and incineration is unknown by the majority within the healthcare industry. It is difficult for a hospital to embrace pollution prevention practices with out an understanding by the hospital community of their contribution to the discharge of mercury and dioxin. Many alternative medical products exist (mercury free fixatives, mercury free sphygmonanometers, PVC free IV Bags, PVC free compression sleeves, etc.) which are cost neutral. The hospital community must be educated about their contribution to the discharge of toxic substances and about alternative products that can help to eliminate this discharge.

Hospitals which have embraced a model of pollution prevention are faced with a significant roadblock:: the inability to purchase alternative products through their General Purchasing Organizations (GPOs). Most hospitals belong to at least one, or sometimes two GPOs, GPOS act as product brokers, and are structured similar to what the avenge homeowner may know as a 'buying club''. Through large volume purchasing, and standardization, a GPO can offer large discounts to its' member hospitals. GPOs are numerous and compete nationally for hospital contracts. While a GPO can offer a hospital substantial savings, it also dictates which products a hospital can buy. For example, a GPO may only carry products X, Y, and Z. A member hospital wishing to purchase product A will be forced to purchase product X, if it is also interested in purchasing product Y and Z. A hospital which elects to go, ''out of contract'' to purchase product A, is typically highly penalized financially. This roadblock is substantial to the hospital community because many of the more ''environmentally friendly'' or ''less toxic'' alternatives are small product lines not able to compete with larger manufactures, and thus not carried by the GPO. A hospital attempting to lower costs by purchasing through a GPO is therefore virtually unable to select less toxic products.

The GPO response to individual hospital concerns is that it will respond to its members needs. Unfortunately, many individual hospitals feel disenfranchised or are too busy to be able to work

together to change the structure of the GPO.

Proposed Work Outcome:

A Minnesota based multi-stakeholder steering committee will be established to steer the project. Representatives will include a physician, a health affected group, an environmental group, state hospital environmental assistance provider and District staff. This group will meet monthly through the duration of the project. The first step will involve the development and distribution of a state wide survey to identify the level of awareness about dioxin and mercury issues in Minnesota hospitals, to identify GPO affiliation,
and to identify those hospitals interested in purchasing mercury and PVC free products. The steering committee will develop a strategy to identify those GPOs most receptive to working towards mercury and PVC free product choices. One large GPO, Amerinet, has expressed an interest in working towards such a goal. The steering committee will meet with at least me GPO to identify hurdles in providing alternative products and will identify means to surmount them. Successful strategies may include regulatory controls
and/or a list of criteria which will allow a hospital to purchase out of contract. The steering committee will also work towards identifying means to assist hospitals in their call on the GPO community for mercury or PVC free products.
In addition, District staff will work with the state hospital, state medical, state nursing association and regional material managers to identify and develop their educational needs relating to mercury and dioxin. This may include identifying speakers for state or regional meetings, lists of alternative products, a video or educational brochure. The state Hospital Association has already issued a call for member hospitals to reduce the use of PVC products, but has provided little information on the issue.
Anticipated environmental results will be long term. The intent of this project is to assist a least one GPO in the development of a product line that is mercury or PVC free, which will in turn provide a competitive impetus for change within the GPO market. In the next few years, dioxin requirements under Federal medical waste incinerator under MACT rules may work as an incentive for hospitals to reduce their purchase and incineration of PVC. Mayo Clinic, in Rochester Minnesota, already segregates their PVC because of hydrochloric acid concerns. Environmental results will include a drop in dioxin, HCL, mercury, and lead emissions (lead is used as a stabilizer in many PVC products). A shift to alternative PVC products may also result in a drop in phthalate and dioxin emissions from PVC production facilities. Phthalates are reproductive toxins used as a plasticizer of PVC IV and blood bags and other products.
All habitats and species are affected by dioxin and mercury, including humans. Nursing human infants are included as a highly exposed populations by the USEPA. This project aims primarily to reduce and eliminate the discharge of dioxin and mercury from the healthcare industry.

Project Milestones:	**Dates:**
Steering committee established	01/1999
First meeting with GPO	/
Survey collected	04/1999
Progress report on GPO meetings	/
Draft of Edu materials/Progress on GPO	07/1999
Edu material completed/Final recommendat	10/1999
	/
	/

☒ Project Addresses Environmental Justice

If So, Description of How:

The primary route for the ingestion of mercury is through the consumption of fish. Those affected populations which will be benefit include indigenous peoples and low income peoples living an a sustenance diet. In addition, the majority of medical waste incinerators and PVC manufacturing facilities are located in areas with low income and African-American populations. Any initiatives which would help to reduce the discharge of dioxin resulting from the manufacture and incineration of PVC plastic would provide a benefit to those populations. Finally, as global pollutants, the pollutants migrate northward toward the polar region. Some of the most highly mercury and dioxin contaminated foods are those ingested by the indigenous populations living in the Northern latitudes. This project will indirectly benefit all of these populations.

☒ Project Addresses Education/Outreach

If So, Description of How:

Any pollution prevention program must include an educational component. In order to implement best management practices, or substitute alternative materiels the target audience must be educated on why and how they should make those choices. For this project the target audience is primarily the GPO community and the healthcare community which includes nursing, medical profession, material managers, pubic health, and environmental service directors. The GPO community will be impacted through an understanding of the concerns of its member hospitals concerning mercury and dioxin The healthcare sector will be impacted by an understanding of the health concerns of mercury and dioxin. This understanding should assist in moving it towards a philosophy of preventative medicine through an adoption of pollution prevention practices which strive for the goal of zero discharge.

Project Budget:

	Federal Share Requested ($)	Applicant's Share ($)
Personnel:	25,000.00	4,000.00
Fringe:	0.00	0.00
Travel:	5,000.00	0.00
Equipment:	0.00	0.00
Supplies:	15,000.00	0.00
Contracts:	2,000.00	0.00
Construction:	0.00	0.00
Other:	13,000.00	0.00
Total Direct Costs:	0.00	0.00
Indirect Costs:	0.00	0.00
Total:	60,000.00	4,000.00
Projected Income:	0.00	0.00
Approved Indirect Cost Rate (%):	0.00	

Funding by Other Organizations (Names, Amounts, Description of Commitments):

Description of Collaboration/Community Based Support:

There is current support for this initiative both locally and nationally A national coalition called Health Care Without Harm representing physicians groups, hospitals, environmental groups, nursing groups has already identified GPOs as a major barrier in eliminating the discharge of mercury and dioxin. The American Public Health Association, a state medical association and the American and California Nursing Associations have all called on their members to work towards the reduction and elimination of PVC. In Minnesota an ad hoc group representing indigenous people, breast cancer activists, state assistance providers, environmental groups, physicians, and a local hospital will be meeting in January to develop a work plan to improve pollution prevention practices in Minnesota healthcare.