

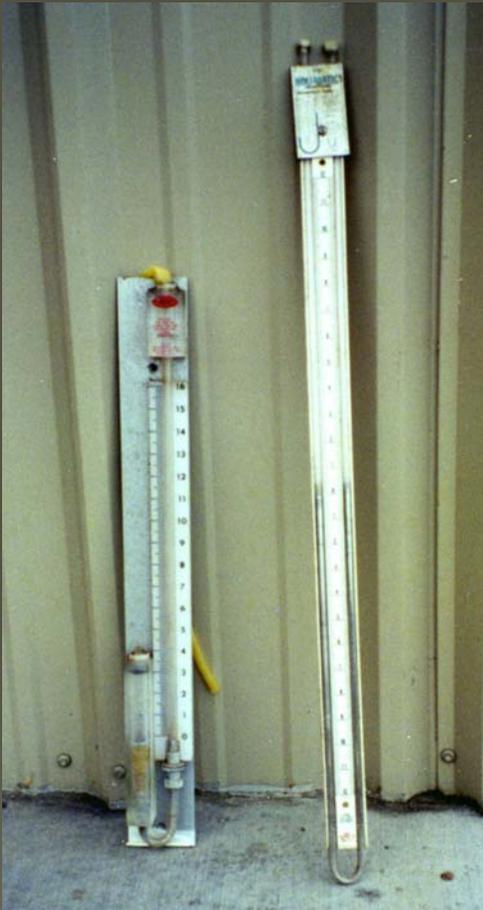
# The Washington State Mercury Manometer Replacement Project

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# What is a mercury manometer?



- It's a mercury-filled instrument that controls the negative pressure within a dairy's milking system.

# Where are they located at dairies?

- In the milk parlor usually near the entrance of the milking pit or
- On the wall at the entrance to the milk parlor



# Why are they a concern?

- Contain up to 16 oz. of liquid Mercury at installation
  - Mercury is a Persistent, Bioaccumulative Toxin (PBT), [www.ecy.wa.gov/programs/eap/pbt/pbtfaq.html](http://www.ecy.wa.gov/programs/eap/pbt/pbtfaq.html)
- Potential for environmental releases
- Potential exposure to dairy staff

# Other successful replacement projects

- Minnesota, 1997, offered \$100 toward replacement
  - banned from dairies by 12/31/2000
- Michigan, 1998, offered \$250 toward replacement
- Wisconsin, 1999, offered \$200/replacement or \$100/removal

# Could a similar project benefit Washington?

- In 1999, there were ~780 operating dairies
- A cursory survey of dairy equipment vendors indicated that ~15 to 20% used mercury manometers (i.e. ~117 to 156)

# Funds and Partners

- Available grant money
  - EPA Pollution Prevention Incentives for States (PPIS) 50-50 Matching Fund Grant
- Other interested parties
  - Washington State Dairy Federation
  - Washington State University's (WSU) Cooperative Extension Program
  - Washington Depart. of Agriculture (WADA), Food Safety Program
  - Ecology's Water Quality Program

# Efficient Administration

- April, 2000, received a \$27,000 PPIS Grant
  - supported a 2-year project, July 2000 through June 2002
- Services of core partners tracked for Match
  - \$300 rebate direct to farmer for non-mercury replacement
  - pick-up and disposal of mercury manometer
  - outreach to all interested parties
  - presentations at dairy-related trade shows, workshops, regional meetings

# Project Details

- Project Introduction: July 1, 2000
  - news letters: WADA, WSU, Conservation Districts, Dairy Federation
  - announcement letters: dairy equipment vendors, milk cooperatives, jurisdictional health districts
  - presentations at internal Agency meetings
- Project Initiation: September 1, 2000
  - notification letters to all milk-producing dairies
    - 83 \$300 Rebates available...first come first served

# Project Details

(continued)

- To earn \$300 Rebate
  - dairy coordinated with vender for replacement
  - old manometer, installation bill, and rebate coupon collected by Project team member
- April 30, 2001, 83 rebates processed through Ecology
  - 19 dairies on a waiting list

# Additional Funds

- May 1, 2001, received \$9850 from an amended PPIS grant
  - provided for 32 additional rebates
  - provided for removal from closed dairy sites
  - extended project end date to December 2002

# Manometer Replacement, Part Two

- Spread the word to dairies
  - 17 of the 19 dairies on the waiting list participated
  - coordinated directly with Vendors
  - coordinated directly with WADA Milk Inspectors
- Contacted current residents at closed dairy sites
  - coordinated with WADA Food Safety Program

# Final Results

- By August 2002, a total of 122 Mercury Manometers were replaced
  - 110 replaced at operating dairies
  - 9 removed from dairies that had changed to non-mercury previously
  - 5 removed from sites of closed dairies
- 78.3 lbs of liquid Mercury
- 72.3 lbs of Mercury contaminated debris

# What Worked Well

- Partnering with WSU Cooperative Extension
  - established trusted technical assistance relationship
- Partnering with WADA Food Safety Program
  - established presence and rapport
- Providing collection and disposal for the old manometers
  - based on comments from the 60% Survey response

# What could be improved

- Confirming the generator status of the dairies
  - old manometers transported as CESQG waste
  - other potential hazardous waste streams were spent vehicle maintenance fluids and old pesticides
    - inquiries about management and disposal at time of manometer pickup concerned farmers