



PROPANE TANK PRODUCT STEWARDSHIP PROJECT

PROJECT SUMMARY

March 28, 2003

BACKGROUND INFORMATION

Millions of households nationwide have refillable propane gas tanks for use with barbecue grills and other appliances. In 1999 alone, grill manufacturers shipped a total of 14.9 million propane gas grills to retailers. The propane tanks, typically with a 20-pound capacity, are refillable and typically last several years before needing to be refurbished or replaced. However, in 1998, a new National Fire Protection Association code (NFPA 58) was introduced requiring 20-pound propane tanks to be equipped with overfill protection devices (OPDs). In 27 states, the code was adopted in full (e.g., no refilling for non-OPD tanks) by April 1, 2002. While the OPD requirement improves safety by reducing the risk of overfilled tanks, it has also rendered a large number of existing tanks obsolete. This change to the NFPA code has dramatically increased the number of propane tanks being improperly discarded in the trash, which has resulted in increased management costs and increased risks of injury to those involved in handling discarded propane tanks.

PROPOSED PROBLEM STATEMENT

The management of 20-pound propane tanks (typically used for barbecue grills) is a concern because the tanks often contain residual propane gas, which has the potential to cause fires or explosions. Solid waste officials and waste managers often discourage tanks from being disposed in the waste stream. As a result, many municipalities hold special collections to divert the used products from disposal. Despite these municipal efforts, large numbers of tanks are discarded in the household waste stream, presenting a significant risk of injury to waste haulers, transfer station operators, landfill operators, waste-to-energy operators, and others. Explosions caused by the improper disposal of propane tanks can also result in costly damage to equipment.

The SEMASS Resource Recovery Facility, an approximately 3,000-ton per day combustion facility in southeastern Massachusetts owned by SEMASS Partnership, reported to the Product Stewardship Institute (PSI) that it removed more than 2,300 20-pound propane tanks from the waste stream in 2001. This number includes tanks pulled from two trash transfer stations and from the SEMASS plant. The number of tanks pulled from the waste stream by SEMASS

increased significantly during 2002. For the first seven months of 2002, the number of tanks removed was 74% higher than the first seven months of 2001.

The presence of 20-pound propane tanks in the waste-stream is a serious problem for waste-to-energy facilities like SEMASS that shred household waste prior to combustion, since shredding propane tanks can result in explosions. The resulting explosions are often powerful enough to damage equipment and buildings, and place the workers at risk of serious injury. SEMASS staff reported 62 explosions from the shredding of propane tanks since January 1, 2000. The average cost of repairs after an explosion is in excess of \$12,500. There are approximately a dozen waste-to-energy facilities in the United States that use the shred-and-burn process, most of which have experienced explosions similar to those at SEMASS.

THE PROJECT: PSI's project is devoted to bringing key parties together to jointly solve problems related to the improper disposal of propane tanks. PSI will manage a results-oriented dialogue between representatives from propane industry associations, tank manufacturers, retailers selling tanks, dealers of propane or products that use propane tanks, environmental/consumer advocates, tank recyclers, state and local government agencies, waste management companies (including haulers and facilities), and others.

PROPOSED PROJECT GOALS

Primary Goal: To reduce the safety risks, environmental impacts, and equipment damage associated with the improper disposal of 20-pound propane tanks in the municipal waste stream.

Supporting Goals:

- Increase the reuse and recycling of propane tanks.
- Increase awareness of safe, economical, and environmentally responsible end-of-life management options among consumers, municipal officials, manufacturers, retailers, and other stakeholders.

PROPOSED ISSUES TO DISCUSS

Define the Problem

- Why are consumers choosing to dispose of propane tanks in their household trash?
 - What disposal options are available?
 - Is there a need for improved consumer education?
 - What are the retailers/dealers/municipalities telling consumers?
- Why are trash collectors collecting propane tanks despite policies and laws, where applicable, prohibiting them from doing so?
 - Are there laws or regulations that make it illegal to dispose of propane tanks in the trash (residential, commercial)?
 - Is there a need for improved worker education?
 - Is there a need for improved monitoring/supervision?
 - What type of incentives are needed?

- What are the risks associated with propane tanks in the municipal waste stream?
 - Collection/transport
 - Waste-to-energy facilities

Identify Solutions

- What actions are required to decrease/eliminate the improper disposal of propane tanks in the trash?
- What actions are required to decrease the safety risks associated with explosions of propane tanks that are in municipal waste streams?
- What actions are required to increase the reuse and recycling of propane tanks?

Evaluate Solutions

- Which solutions are the most effective, feasible, and economical to implement?
- Which key parties should have the responsibility for implementing solutions?
- How will the solutions be funded?
- What incentives will make key stakeholders take responsibility for the problem?

ACTION PLAN FOR ACHIEVING PROJECT GOALS

PSI proposes that the project goals be reached through the following four-phase process:

Phase I: Research and Outreach

Phase II: Convene National Dialogue

Phase III: Implement Program

Phase IV: Monitor Program

Phase I (Research and Outreach)

Phase I is the outreach and research phase. PSI will identify and contact stakeholders involved with the manufacture, sale, use, collection, refilling, refurbishing, recycling, and disposal of propane tanks. PSI will interview the stakeholders in order to introduce them to the project, obtain information for the technical research report, and determine their interest in participating in a national product stewardship dialogue. The interview process also provides an opportunity for the stakeholders to communicate their interests and perspectives regarding the nature of the propane tank management problem and any potential solutions. While the main focus of Phase I will be on the immediate problems faced by SEMASS in Massachusetts, the information obtained will also be applicable in a national context for the Phase II dialogue.

PSI will conduct research on the management of obsolete propane tanks and prepare a Background Technical Report on the safety and environmental issues surrounding the improper disposal of obsolete tanks. The report will also cover topics such as existing tank collection programs, regulatory issues, and consumer education efforts. PSI will also prepare a Propane Tank Product Stewardship Action Plan that will be used to guide the dialogue in Phase II. This plan will include a proposed problem statement, proposed dialogue goals, key issues for

discussion, and possible solutions that each of the stakeholders wants considered in Phase II of the project.

Phase II (Dialogue)

In Phase II, PSI will conduct any additional research needed for the national dialogue, and convene a consensus-based dialogue with representatives from the key stakeholder groups identified in Phase I. The proposed goals of the dialogue will be determined in Phase I through extensive interviews with potential participants. Upon convening in Phase II, the group will review the goals and adjust them as necessary. PSI will schedule group conference calls prior to the meetings to prepare the participants so that the meeting time is used efficiently, and will create working groups, as needed, to focus on issues identified by the group. PSI will also develop contact lists, a listserv, and a web site for effective and efficient communication. The project timeline and process will be determined in interviews with participants in Phase I but reviewed and revised based on the group input in Phase II. At the end of this phase, PSI will provide a report that details the agreement and summarizes the dialogue. If any components of the agreement can be implemented immediately, PSI will assist in doing so.

Phase III (Implementation)

Phase III is the implementation phase. PSI will work with the stakeholders to implement components of the agreement reached in Phase II. PSI will hold conference calls and meetings with the stakeholder groups to coordinate efforts and maintain momentum in the implementation of solutions.

Phase IV (Monitoring)

In Phase IV, PSI will develop a report that evaluates the agreement and its implementation, using the metrics of success established in the Phase II dialogue. Throughout the project, PSI will gather data to enable this subsequent project evaluation.

PROJECT EVALUATION (PROPOSED METRICS OF SUCCESS)

PSI proposes to evaluate performance in terms of both the project and the process. Project Performance Measures will be used to assess the degree to which the project goals are achieved. Process Performance Measures will be used to assess the effectiveness of the process used to achieve the goals.

Project Performance Measures

- Reduction in the number of propane tanks that are improperly disposed, as measured by the number of tanks that waste-to-energy facilities receive in the waste-stream.
- Reduction in the costs related to propane tank explosions in waste-to-energy facilities. Costs could include equipment damage, production downtime, and worker related injuries.
- Increase in reuse and recycling of obsolete propane tanks, as reported to PSI by municipal collection programs, retailers, refurbishers, and steel recyclers.

- Increase in the number of consumer education efforts regarding the proper storage and disposal of obsolete propane tanks. PSI will track efforts of municipalities, retailers, the propane industry, associated equipment manufacturers, and other relevant participants.
- Increase in the awareness of municipal officials regarding the proper end-of-life management of propane tanks as measured by an informal survey, testimonials, or other means.

Process Performance Measures

Phase I (Research and Outreach)

- Gain representation of key stakeholders in the research and outreach phase. The success of this phase will be determined by the number of key participants providing information, contributing to the development of the Action Plan, and pledging to participate in the dialogue.
- Develop an Action Plan that accurately reflects the perspectives of the participants. The Action Plan should provide participants with a clear understanding of issues involving the management of obsolete propane tanks and provide a roadmap for addressing those issues in a national dialogue. A review process will be used to ensure that the Action Plan reflects the perspectives of the participants.

Phase II (Dialogue)

- Obtain active participation of key stakeholder groups in a national product stewardship dialogue.
- Reach a signed agreement between dialogue participants that outlines the roles and responsibilities of each stakeholder group for addressing the proper management of obsolete propane tanks. The agreement will address financing mechanisms, collection and recycling/reuse infrastructure and consumer education.
- Meet the participants' expectations that the final agreement addresses the issues identified in the Action Plan.

Phase III (Implementation) I

- Meet the participants' expectations with respect to the implementation of the final agreement. This will be determined through interviews with key participants. PSI will report on the number and extent of actions taken or not taken by those involved in the agreement.

Phase IV (Monitoring)

- Meet the participants' expectations with respect to the project performance data collection and progress reporting.

Other PSI Product Stewardship Projects

PSI is currently involved in developing product stewardship solutions on the following products: electronics, paint, propane tanks, and radioactive materials. This year, PSI expects to also be involved in developing product stewardship solutions for pesticides and products containing mercury.

Organization History and Mission

PSI History: On December 6-7, 2000, the Product Stewardship Institute coordinated the nation's first forum for government officials to discuss product stewardship policies and programs. Over 100 government officials attended the two-day national Product Stewardship Forum, representing 19 states, 7 regions of the U.S. Environmental Protection Agency, and a dozen local governments. At the forum, Secretary Bob Durand of the Massachusetts Executive Office of Environmental Affairs (EOEA) announced the creation of the Product Stewardship Institute. The Institute was the first major initiative to emerge from an agreement signed in January 2000 by Secretary Durand and University of Massachusetts President William Bulger. PSI was created to provide a focal point for communication with product manufacturers and other key stakeholders rather than risk the random development of agency programs and regulations across the country.

Mission Statement: *The Product Stewardship Institute assists state and local government agencies in establishing cooperative agreements with industry and developing other initiatives that reduce the health and environmental impacts from consumer products. The Institute seeks out the active input from, and cooperates with, environmental groups, business interests, academic institutions, the federal government, and related organizations to achieve product stewardship goals.*

PSI Governance Structure: The following are members of PSI's Steering Council for fiscal year 2003 (ending June 30, 2003). The Council assists the Director in making decisions for the Institute and guides its development.

Ken Geiser	University of Massachusetts
Gina McCarthy	MA Executive Office of Environmental Affairs
Jay Shepard	WA Department of Ecology
Jan Whitworth	OR Department of Environmental Quality
John Balkenbush	MO Department of Natural Resources
Gretchan Ammerman	HI Department of Health
Shirley Willd-Wagner	CA Integrated Waste Management Board
Scott Klag	Metro Regional Government, OR
Chris Luboff	Seattle Public Utilities, WA

PROJECT TIMELINE

Propane Tank Product Stewardship Project Timeline																												
Task	Phase I					Phase II				Phase III					Phase IV													
	Funding from SEMASS					Funding from Propane Council (Proposed)				Funding from Propane Council (Proposed)					Funding from Propane Council (Proposed)													
Task	Sep-02	Oct-02	Nov-02	Dec-02	Jan-03	Feb-03	Mar-03	Apr-03	May-03	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04
Phase I																												
Develop Work Plan	█																											
Develop Tech. Research Scope of Services	█	█																										
Identify & Contact Stakeholders	█	█	█	█	█																							
Technical Research		█	█	█	█	█																						
Develop PS Action Plan		█	█	█	█	█																						
Asses Dialogue Viability				█	█	█	█																					
Write Report				█	█	█																						
Phase II																												
Convene Dialogue							█	█	█																			
Write Report									█	█																		
Phase III																												
Implement Agreement										█	█	█	█	█	█													
Write Report															█	█												
Phase IV																												
Monitor Agreement																█	█	█	█	█	█	█	█	█	█	█	█	
Write Report																											█	

