

## **APPENDIX C**

### **U. S. Filter Recovery Services Project XL Stakeholder Involvement Plan**

#### **I. Introduction**

U. S. Filter Recovery Services (USFRS) is a part of U. S. Filter, the World's leading provider of water and wastewater treatment equipment and services. USFRS products and services are among the most environmentally advanced in the inorganic wastewater treatment industry. The USFRS decision to pursue a Project XL initiative is an extension of that position. Environment Excellence has always been the credo at U.S. Filter Recovery Services.

The "XL" in Project XL stands for Excellence and Leadership. Project XL is a U.S. Environmental Protection Agency (EPA) initiative to enable companies to achieve greater environmental benefits by implementing new approaches to existing regulations in the operation and expansion of existing and new facilities. USFRS' Project XL initiative will achieve greater environmental benefits while affording our customers more flexibility in achieving increased recovery from their manufacturing processes.

An important requirement of Project XL is the involvement of stakeholders throughout the process of developing the technical and legal framework for a Final Project Agreement or FPA. USFRS has established a Project XL Stakeholders group representing and involving individuals of various backgrounds with a direct interest in the project. The USFRS Stakeholder Involvement Plan (SIP) establishes a process for informing and involving these individuals in the company's development of a Project XL initiative. The SIP is designed to be modified to respond to and meet changing conditions throughout the Project XL process.

#### **II. Goals and Objectives**

The SIP is directed to facilitating communications among the people and organizations (the Stakeholders) involved in USFRS' Project XL initiative. The goal of the Plan is to obtain substantial consensus on the development and implementation of a Project XL Final Project Agreement that provides enhanced protection to the environment and human health while at the same time providing regulatory flexibility to USFRS' customers. The objectives of the SIP are as follows:

- Identify stakeholders and their roles in the project.
- Develop a system to communicate the project development process to stakeholders.
- Create an environment that will allow effective participation by stakeholders.
- Foster meaningful communications and dialogue among all stakeholders and USFRS.

#### **III. Stakeholders**

As noted in the most recent EPA guidance document on Project XL published in the Federal Register on April 23, 1997, "Stakeholder involvement is critical to the success of each XL project. Stakeholders provide information about the preferences of the community. They may identify issues that have escaped the notice of project sponsors and regulators." Further, EPA noted in the May 23, 1995 Federal Register notice defining the XL program that an important factor in the agency's approval of projects is "the extent to which project proponents have sought and achieved the support of parties that have a stake in the environmental impacts of the project." EPA divides stakeholders into three categories:

"**Direct** participants in project development work intensively' with project sponsors to build a project from the ground up. The views of direct participant stakeholders will strongly influence the details of the project as well as EPA's ultimate decision to approve or not approve the project."

"**Commentors** have an interest in the project, but not the desire to participate as intensively in its development. The project development process should inform and be informed by commentors on a periodic basis. The views of informed commentors are a strong indicator of the broad potential for wider applicability of the innovation being tested in a project."

"**Members of the general public** should have easy access both to the project Development process and to information about the environmental results of the project once it is implemented, and should have the ability to participate more actively if they so choose."

USFRS' stakeholders are many and varied and certainly cut across all three EPA categories. The Stakeholder group begins with USFRS employees, both management and line workers. Stakeholders also extend beyond the immediate geographic area and include those interested and/or involved in USFRS in a variety of ways. These broader stakeholders include government officials and regulators, environmental groups, the community and other businesses throughout the region.

#### **A. Direct Participants:**

Success for the USFRS project development process will be measured by obtaining a substantial consensus on a Final Project Agreement. The direct participants involved in the project development process are those with interests likely to be affected by the project. The following are stakeholder groups that have been identified and are currently direct participants in USFRS' Project XL initiative.

- USFRS as the project sponsor
- USFRS employees
- Minnesota Pollution Control Agency, Ramsey County Public Health, Metropolitan Council Environmental Services, Anoka County and US EPA
- Roseville residents
- Local public officials
- Environmental groups

If additional groups are identified, they will be added with a consensus vote by the current parties.

**B. Commentors:**

There are a variety of people and organizations who are not direct participants in the USFRS Project XL development process but who have an interest in and wish to be informed about progress on the project. As an important part of the SIP, USFRS will share information about Project XL and seek input from a number of interested parties.

**C. General Public:**

The broader category made up of people and organizations who do not have a significant interest in USFRS' Project XL initiative deserve to be kept informed of progress on the project. An increasingly important means of reaching the public is through Internet access. Information about USFRS' Project XL initiative will be posted on Company and EPA/MPCA Web sites to facilitate access by the general public and those more directly interested in the project. Additional mechanisms will be used as they are identified. To date, the communications outlets to be used in the process include:

- Roseville Focus
- Ramsey County Bulletin
- St. Paul Pioneer Press
- EPA/MPCA and U.S. Filter Web sites

**IV. USFRS SIP Protocols**

**A. Strategies and Tactics:**

The USFRS SIP is designed to ensure every stakeholder category - direct participant, commentor and member of the general public - will be appropriately informed about and involved in the USFRS Project XL process. This design is accomplished through a set of strategies and tactics designed to compliment and reinforce one another.

For example, the Stakeholder group will meet regularly, giving members the opportunity to consider and provide input about Project XL progress. Residents, the news media and other interested parties will have the opportunity to attend meetings. Residents and others on the USFRS mailing list will receive a USFRS Project XL Update (described later). Taken together, the combination of communications is designed to provide meaningful information and an opportunity for involvement for all parties.

**B. Membership:**

Membership will be given to all parties interested in participation. Direct Stakeholder membership will be controlled by a consensus vote of the current Direct Stakeholder Group.

**C. Member Roles:**

The member roles will be defined by the current Direct Stakeholder Group. The Direct Stakeholders Group will do this through a group discussion and consensus vote.

**D. Meetings:**

In its initial stages of operation, the Stakeholders group will meet monthly to ensure all members are fully briefed and that all represented interests are heard. Eventually, the Stakeholders and communication needs will dictate meeting frequency. Meetings will take place at various sites. Meetings will begin promptly at 4:00 p.m. and end no later than 6:00 p.m. in order to facilitate participation. Meetings will be scheduled well in advance to help ensure attendance. Meetings will be open to members of the public, should they wish to attend.

**E. Management and Staffing:**

The workings of the Stakeholders group will be managed by the General Manager of USFRS who will chair the proceedings, with the Director of Environmental Compliance as his/her back-up. A non-company co-chair will be designated (Joe Carruth of the MPCA as of 5/1/98) to assure that the group is not company dominated. The group will be supported by USFRS representatives. In consultation with the chair, USFRS representatives will prepare and distribute meeting announcements, agendas and materials. USFRS representatives will make arrangements for tours, briefings, etc. Meeting summaries will be prepared and distributed by USFRS representatives to Committee members for review and comment to ensure an accurate record of Committee proceedings is kept.

**F. Substantial Consensus:**

While it may not be possible to achieve full consensus on all matters that come before the Stakeholders group, it is the intent to achieve substantial consensus on the Final Project Agreement as a key measure of project success. Substantial consensus means that, as the advisory body to the project, most members of the group agree on a particular position.

When the Final Project Agreement is to be submitted, each Stakeholder will have the option of one or both of the following:

- 1) Sign the letter of submittal (to the EPA) of the FPA
- 2) Provide a statement of support or concern as an addendum to the letter of submittal

**G. The USFRS Project XL Update:**

USFRS will create and publish a USFRS Project XL Update on an as-needed basis as work on Project XL moves forward. The publication will employ a simple, easy-to read newsletter format of two pages containing articles, graphics and/or photos to clearly and concisely describe progress on Project XL. The Update will be published on a timely basis when there is useful information about the project to convey. A mailing list of interested parties will be established for the Project XL Update. Copies of the Update will be posted on company bulletin boards and company and EPA/MPCA Internet Web sites.

#### **H. Media Relations:**

The news media outlets listed in the Commentors section will be kept informed about work on Project XL by being placed on the mailing list for The USFRS Project XL Update. When warranted, news releases, interviews and other media relations techniques will be used. Additional matters will be brought to the media's attention by USFRS, just as it does in its regular media relations program.

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## APPENDIX D

### Project Benefits

#### Hydrochloric Acid Recovery System Project:

##### System Facts:

Capacity: 1.85 million gallons of acid annually

Current Rate: 16,000 gallons of waste annually

**PROJECTED BENEFITS:** If USFRS achieves its target goals, the following benefits will be realized:

1. Reduction of an approximate 2.6 million gallons of neutralized effluent discharged to a POTW over the first three years of the Project. This would be accomplished by eliminating the need for on-site neutralization and the volume of water involved in its discharge. USFRS's projected progress involves meeting the following goals:
  - a. First year: 580,000 gallons.
  - b. Second year: 920,000 gallons.
  - c. Third year: 1,200,000 gallons

These numbers are calculated by combining the volume of HCl expected to be removed from treatment by the XL Project, along with the corresponding quantity of NaOH required for neutralization, and the average volume of water in the discharge.

2. Reduction of approximately 2.3 million pounds of salt, usually sodium chloride, discharged to a POTW over the three years of the Project. This results from the acid and neutralizing agent reacting, and the resulting solution being discharged.

USFRS's projected progress involves meeting the following goals:

- a. First year: 500,000 pounds.
- b. Second year: 800,000 pounds.



- c. Third year: 1,000,000 pounds.

These figures are developed by calculating the molar weight of the sodium chloride salt generated by neutralizing HCl with NaOH.

3. Reduction of 3.5 million pounds of purchased caustic for neutralization at the facilities participating during the first three years of the Project. This quantity is the calculated weight of sodium hydroxide needed to neutralize the corresponding volume of Hydrochloric acid that has been recycled. USFRS's projected progress involves meeting the following goals:

- a. First year: 750,000 pounds.
- b. Second year: 1,200,000 pounds.
- c. Third year: 1,500,000 pounds.

4. Reduction of 5.4 million pounds of virgin acid purchased over the three years of the Project. This would be replaced by the 5.4 million pounds of HCL recycled, then reused in its place. USFRS's projected progress involves meeting the following goals:

- a. First year: 1,200,000 pounds.
- b. Second year: 1,900,000 pounds.
- c. Third year: 2,400,000 pounds.

These estimated quantities were developed by USFRS's management. The key parameters used in making these estimates were the potential market and the incentives offered by the XL Project.

5. Reduced hazardous materials transport. For those materials brought into the XL Project, there will be a net reduction in the volume and number of miles hazardous materials will be transported. When recycled, waste acid will be transported the average distance of 20 miles to USFRS for recycling. It will then be shipped back the average distance of 20 miles to the generator for reuse. The current (nonXL) scenario requires both acid and a caustic neutralizing agent to be transported from distant chemical manufacturers. For caustic, the Gulf States (1,200 miles), and from the Gulf States (1,200 miles) or Wisconsin (180 miles) for acid. After its use, more acid and caustic then has to be shipped from these distant locations to resupply the user.

CURRENT SCENARIO:

Acid---180 or 1,200 mi. →	Acid--- 180 or 1,200 mi. →
Generator	Generator
Caustic ----- 1,200 mi. --- →	Caustic----- 1,200 mi. --- →

XL SCENARIO:

Acid--- 180 or 1,200 mi. → Generator---20mi. → USFRS---20mi. → Generator  
(caustic not required)

6. Reduced energy consumption. I do not have access to all the energy requirements for the following steps. However, when comparing the two processes for energy use, the attributes of recycling are overwhelming.

To manufacture HCL and caustic soda, a NaCl brine is heated to the point that Chlorine gas is generated. This is very energy intensive process. A caustic soda is also generated through that process. The chlorine is then burned with Hydrogen to generate Hydrochloric acid. These materials are then transported the 1,200 miles to the user. Again, I do not have access to the energy requirements of this process.

The energy costs to recycle Hydrochloric acid are approximately 5 cents per gallon. This includes all steam, electricity, and air required to recycle the water and acid. The transportation distances average of 20 miles to USFRS for recycling, and 20 miles back to the user. These distances were obtained from our Transportation Manager.

7. Reduced metals loading to the waste water treatment facility. This can be crudely calculated through the following scenario, assuming both the generator and USFRS have the same discharge limits. Generator produces 100 gallons of acid:  
--- If approximately 15 gallons of caustic (concentrated) is required to neutralize this 100 gallons of solution. Then 115 gallons of water is discharged to the WWTP.

--- If this 100 gallons of acid is recycled at USFRS; 30 gallons of acid, 30 gallons of distilled water, and 40 gallons of wastewater are produced. Only the 40 gallons of wastewater is discharged to the WWTP.

That is a net reduction of 75 gallons, or 65%, discharged to the WWTP per 100 gallons of acid treated on-site. If this project involves a reduction of 2.6 million gallons of discharge, it would lead to the following reduction in metals loading (assuming discharge limits are matched) at the WWTP:

Discharge Limit	2.0 mg/l Cd = 39.8 pounds
	8.0 mg/l Cr = 159.4 pounds
	6.0 mg/l Cu = 119.9 pounds
	1.0 mg/l Pb = 19.9 pounds
	6.0 mg/l Ni = 119.5 pounds
	8.0 mg/l Zn = 159.4 pounds

These figures are rough estimates. The Metropolitan Council Environmental Services, the agency that operates the regional wastewater treatment facility, strongly supports the services that USFRS provides. The MCES credits USFRS with a large part of its 81% reduction in metals loading to their facility since the startup of this operation.

Sludges generated from either treatment on-site by the generator, or through recycling by USFSR, would probably be comparable. Although the most common management practice by a generator is land disposal, USFRS ships its sludges to a metals recovery facility. Recovery is more expensive, but long-term environmental concerns are reduced by this method.

Waste acids that would enter this project are highly contaminated with heavy metals. They would not be appropriate for on-site neutralization of caustics. However, if these acids could be used for that purpose, the significant cost savings of on-site use over recycling would exclude them from this project. The facilities that USFRS believes will participate in this project generate far more acid than caustic waste.

## Water Reuse Resin Project

The following benefits are anticipated:

1. An estimated reduction of 202 million gallons of water discharged over the three years of the Project to a POTW. This would be realized if additional canisters with ion exchange resins totaling 202,000 gallons of resin, were brought into service. USFRS's projected progress involves meeting the following goals:
  - a. First year: 45 million gallons.
  - b. Second year: 67 million gallons.
  - c. Third year: 90 million gallons.
2. An estimated reduction in the demand for the production of potable water by 202 million gallons. This would be realized if additional canisters with ion exchange resins totaling 202,000 gallons of resin were brought into service. USFRS's projected progress involves meeting the following goals:
  - a. First year: 45 million gallons.
  - b. Second year: 67 million gallons
  - c. Third year: 90 million gallons.
3. An additional 202,000 gallons of resin recycled over the three years of the Project. This is the anticipated increase in resin regeneration at USFRS generated by this project. USFRS's projected progress involves meeting the following goals:
  - a. First year: 45,000 gallons of resin.
  - b. Second year: 67,000 gallons of resin.
  - c. Third year: 90,000 gallons of resin.

These numbers will come from direct measurement of resin recycled, minus the level achieved in 1997, 4,600 gallons. If expectations are exceeded, USFRS will evaluate expanding its capacity to accommodate even higher volumes.