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Printed Name of Representative: Scott K. Windsor

Organization Name: City of Spokane

Signature: Scott K. Windsor

Date: 5/29/13
SWANA 2013 Integrated Solid Waste Management Systems Excellence Award

Spokane Regional Solid Waste System Award Application
Executive Summary

The Spokane Regional Solid Waste System was created by interlocal agreement between Spokane County and the City of Spokane in 1988. The System operates as a department of the City of Spokane’s government, and manages solid waste facilities and contracts for the benefit of all citizens residing in Spokane County. The System is responsible for the collection of solid waste, recyclable and organic materials within Spokane city boundaries and the management and operation of a waste to energy facility, transfer stations, landfills, and recycling and household hazardous fixed facilities for the general population. Spokane’s regional integrated system serves 470,000 people countywide and intakes over 336,000 tons of material per year. In business for over twenty years, the System has continued to demonstrate its commitment to fiscal responsibility, environmental stewardship and customer service.
Spokane Regional Solid Waste System Overview

Spokane’s Regional Solid Waste System (System) is the premier integrated waste management program of the Pacific Northwest. The Regional Solid Waste System boasts an efficient collection service that includes automation, weekly single stream recycling pickup and yard waste diversion. It also has an innovative disposal system of waste to energy, transfer stations, landfills, recycling centers and household hazardous waste drop-off facilities. Spokane has been progressive in its approach to environmentally sound and economically responsible solid waste management.

History - Collections

Mandated refuse collection began within the City of Spokane in the 1940s. In the 1950s, collection was organized under an official refuse division within public utilities. The Refuse Division was responsible for collections within Spokane city boundaries and operation of an ad hoc incinerator and landfill. Waste collection evolved significantly throughout the 1960s, 1970s, and 1980s, moving from open bed and buckboard style vehicles to a fleet of sophisticated and specialized trucks. Along with changes in equipment, the division was renamed the Department of Solid Waste Management (SWM).

Throughout the 1990s and 2000s, new services were introduced and routes were automated. Beginning in the spring of 1995 the Regional System began its pilot automated refuse collection program. Over the following two years, the automated collection program replaced manual services, and as of October 1998, 87% of city residents were on automated collection. The City of Spokane now has a fleet of 24 automated trucks, and met its proposed 1999 goal by completing the automation of 16 residential routes and delivering over 64,000 carts to city residents. Another aspect of automated collection, and all curbside services, is routing and tracking. In the fall of 1997, the System began implementation of Global Information Services (GIS) and has recently added Global Positioning System (GPS) technology to its fleet. These technologies allow for more efficient dispatch and asset management. Supervisors can better determine routes and respond to service requests and drivers can better manage their daily activities with these technologies in place.

History - Disposal

Over the first part of the 20th century, landfills in the Spokane area developed in relationship to population growth and logistics. A number of the landfills were inadvertently located above the Spokane Valley-Rathdrum Prairie Aquifer, Spokane’s sole-source aquifer. In response to growing concerns about water quality and contamination, a private firm was hired to conduct a feasibility study of various solid waste management systems. The final report
was completed in 1983 and ranked a number of alternatives according to environmental and economic criteria. The report recommended that a waste to energy facility be included as part of a regional solid waste system.

Shifting environmental views in the early 1980s, newly adopted Washington State regulations, and federal action directly affecting Spokane area landfills, led the city and county to jointly develop a comprehensive program for regional solid waste management. The plan also addressed methods for recycling, energy recovery, and residue disposal. The County and the City adopted the Comprehensive Plan in 1984. In 1986, the Washington State Department of Ecology conditionally approved the Comprehensive Plan. The Comprehensive Plan recommended a county-wide approach incorporating waste reduction and recycling activities, a waste to energy facility, recycling/transfer stations, and a regional residue landfill.

In 1988, Spokane County and the City of Spokane formed the Spokane Regional Solid Waste System through an interlocal agreement. The System is owned and managed by the City of Spokane but is responsible for the general administration of countywide solid waste planning and programs. The purpose of the System is to operate the disposal, recycling, and moderate risk waste facilities; provide for effective implementation of regional solid waste policies; and to develop solutions to regional and solid waste management needs. Implementation started with adoption of a countywide flow control ordinance with exemption for recyclable materials. The System is directed to perform regional planning and operations functions through the 1988 agreement as well as additional interlocal agreements and amendments with the cities of Airway Heights, Cheney, Deer Park, Fairfield, Latah, Liberty Lake, Medical Lake, Millwood, Spangle, Spokane Valley, Waverly and Fairchild Air Force Base.

The construction of the Waste to Energy (WTE) facility officially began in 1990, along with the North County Transfer Station and Valley Transfer Station. The three facilities include a recycling center and household hazardous waste (HHW) drop off area. In addition to construction of the system, the City of Spokane constructed a new Subtitle D cell at the Northside Landfill. The new cell allows for disposal of bypass waste from the WTE Facility, and non-processable wastes. All the facilities were completed on schedule, operational and opened to the public in late 1991.

The Spokane Regional Solid Waste System continues to develop an integrated solid waste management system that provides environmentally safe and cost-effective methods of waste handling, processing, and disposal. It also establishes a solid waste system that incorporates national, state, and local priorities for managing solid waste, such as waste reduction, recycling, and energy recovery/landfill. As the System looks to the twenty-first century with progressive technology, innovative equipment, and changing regulations, it remains responsive to the evolving needs of the community and environment.

Facilities and Programs

Collections - Solid Waste Management

Currently, the City of Spokane is the second largest city in Washington State. Solid Waste Management (SWM) services a population of approximately 200,000 within the city boundaries. It collects refuse and recycling from over 62,000 residences and over 2,800 commercial customers weekly. In 2012, it collected over 64,000 tons of refuse from households and 62,000 tons from businesses.
Automated Collection

The automated refuse collection program allows a single driver to service more homes in one day than a two person manual truck. This increase in efficiency requires fewer personnel to service the citizens of Spokane. It is important to note that staff reduction has taken place through attrition and by placing drivers in the growing recycling program as well as in the curbside "Clean Green" program.

There are many benefits to a fully automated system. One of the most important is collection efficiency, which is demonstrated by the increase in households serviced each day. Two-person routes collected approximately 500 homes per day while the automated routes average 700 households daily. Equally important, is the decrease in the number of employee injuries due to drivers suffering less exposure to the elements and not having to lift awkward or overfilled containers.

Another benefit to automated collection is that residents are no longer required to provide containers. The System purchased square-style 95-gallon containers that hold more than three times the trash of a normal residential can and fit better in the corners of garages, carports and other storage areas. In addition, the containers are easier to use than traditional cans. The new containers do not easily tip over, blow away, or have separate lids that can get lost. Because each container is the same type and color, neighborhoods are aesthetically pleasing on collection day.

Curbside Recycling Collection

In 1990, the curbside recycling program was introduced to Spokane residents. In that year, with 64,500 bins and 19 trucks, 5,716 tons of recyclable materials were collected in the Spokane area. For many years, the 14 and 18-gallon blue “bin-gees” were a familiar sight along Spokane residential streets. Beginning in October of 2012, the “bin-gee” was replaced by a 64-gallon recycling cart as the System moved to implement single stream recycling. The advantage for collections is that recycling could now be automated, further reducing driver injury and allowing for greater flexibility in vehicle use. It also means that greater volumes and types of material could be collected curbside. Recycling rates have increased an average of 39% since implementation of the single stream recycling program. For the general citizenry, single stream reduces sorting efforts, allows for higher diversion, and the cart makes it easier to move the materials curbside.

The System has made many changes in the recycling program to adapt to the needs of the community. In the spring of 1992, a commercial collection program was implemented that provides service for multi-family dwelling units and businesses. These services account for approximately 15% of the total recycling tonnage now collected.

In July 1995, the residential curbside recycling program began accepting cardboard, magazines, and brown paper bags in addition to the traditional materials of tin, aluminum, glass (blue, green, clear), newspaper and plastics. The inclusion of cardboard, magazines, and brown paper bags in the recycling program has led to an increase in both participation and total tons collected. Further advances to the recycling program were made in 1999 with the co-mingling of three colors of glass, mixed plastics, and metals.
The curbside recycling program provides an easy way for Spokane residents to reduce the city waste stream while at the same time recycling materials for further use. Over the years, SWM has continued to adapt to meet the changing needs of the community while continuing to make the program more convenient and efficient.

Curbside Yardwaste Collection

As much as 15-20% of all household "trash" generated in Spokane consists of yard waste. Keeping this material out of our waste stream saves space, resources, and increases the efficiency of our regional system. Spokane implemented an elective “Clean Green” program for curbside collection in 1997. Services were fully automated and organics (food waste) accepted in 2010.

The Regional System provides residents with a 96-gallon yardwaste cart with side vents to reduce odor and moisture in which compostable material can be placed. The yard trimmings accepted curbside are: grass clippings, plant trimmings, tree parts (up to two inches in diameter and four feet in length), leaves, ivy, shrubs and other materials accumulated as a result of lawn and yard care. The program runs March through November. The material is collected by automated truck once a week on the same day and at the same location as normal refuse and recycling collection.

With a variety of trees and shrubs, yardwaste represents a large portion of the waste stream in Spokane especially during the spring and fall months when yard cleanup and trimming activities are at a peak. Curbside collection is an important step in waste management. Recycling these organic materials into compost creates an abundant resource that can be beneficially reused in the environment. Much of the material is composted by a local company and used in Washington State agricultural applications.

The program saves citizens the task of bagging yard waste, the cost associated with transporting it to another location, or paying for its removal. In turn, the System benefits by reducing the waste stream and producing a reusable product. In the program’s first six months of implementation, over 2,000 households in the Spokane area subscribe to yardwaste collection services. This response exceeded expectations. The program expanded in 1998 to service over 5,700 residents and in 1999, two years earlier than expected, became financially self-sustaining. In 2012, the program had over 21,000 subscribers.

Disposal - Spokane Regional Solid Waste System

At present, Spokane County is the fourth largest county in Washington State and covers 1,764 square miles. The Spokane Regional Solid Waste System provides disposal services for a Spokane County population of approximately 470,000.

Waste to Energy and Transfer Stations

Designed as the major element in Spokane’s integrated solid waste system, the Waste to Energy facility offers efficient energy recovery from municipal solid waste. The facility employs the latest in environmental technology and equipment innovation for producing electricity.

The WTE Facility processes waste from mixed residential, commercial, and industrial sources. The 1.5-acre tipping floor is divided into a commercial and public section with separate areas for compostable materials, metals, refrigerant...
containing appliances and non-processable materials. City staff operates the public section; Wheelabrator Spokane Inc. is responsible for the commercial section and plant operations.

The facility utilizes two 400-ton-per-day “mass-burn” combustion units to generate steam and electricity by means of a 26-megawatt turbine generator. Both fly ash and bottom ash are collected and transported to the regional landfill for disposal. Ferrous metals are recovered from the bottom ash stream. An air-cooled condenser is used to reduce the moisture plume resulting from the combustion process, and minimize any contributory effect on fogging at the Spokane International Airport that is located approximately one mile from the facility. Emission permits require continuous monitors, monthly reporting, and annual stack tests. The monitors, which are located in the stacks, provide data on O2, CO2, NOX, SO2, temperature, and opacity every 15 seconds.

The WTE Facility is designed to accept waste every day of the year except for maintenance periods and six designated holidays. The facility receives waste from haulers and the public seven days a week from 7:30 a.m. to 5:00 p.m. The guaranteed minimum available capacity of acceptable municipal solid waste is 248,200 tons per year (TPY). Since opening in 1991, the facility has exceeded all operations performance standards. All electricity generated by the facility, except that used for in-plant purposes, is sold to Puget Sound Energy. On average, the ash generated by the combustion process is approximately 32% of the incoming material by weight, but only 10% by volume.

WTE Special Waste Management

Waste streams that are amenable to incineration include wood wastes, burnable construction debris, infectious waste, tires, sludge, and some industrial and institutional wastes. The WTE offers a valuable resource to the community for incineration of controlled substances collected by law enforcement agencies; destruction of confidential paperwork from governmental, banking and manufacturing agencies; and waste with unique disposal requirements. Generally, the System is willing to consider processing approved special wastes at the WTE Facility if it meets the following criteria:

- The material must be compatible with the System, and
  - Contain nothing that would adversely affect air quality or ash content
  - Contain no infectious waste, unless it has been sterilized or processed
  - Meet waste source criteria and characterization tests

All materials that are considered for processing in the WTE Facility are extensively evaluated by the System staff and operator prior to acceptance.

When planning Spokane’s integrated solid waste system, there was a need to include transfer stations for citizen convenience and to lower transportation costs for collection companies. In addition, the transfer system needed to complement all other elements of the solid waste management plan. The goals for the System’s transfer system are:

- To provide the appropriate level of service throughout region
- To provide for the separation of different waste streams, such as recyclables and special wastes
- To transfer solid waste to the Waste to Energy facility
Both North County and Valley Transfer Stations were opened along with the WTE Facility. The two transfer stations are similar in design and function, except the Valley Transfer Station has a larger tipping building (15,700 square ft. vs. 8,600 square ft.) and a preload compactor. The compactor is used to increase the payload of trailers and containers transported from the station. The Colbert Transfer Station utilizes top loading with compaction crane. Waste from the transfer stations is loaded into trailers and transferred by System staff to either the WTE Facility, Northside Landfill, or Burlington Northern Yardley Intermodal Facility (for subsequent rail transport to the Roosevelt Regional Landfill). The System fleet consists of twelve tractors and seventeen trailers. Trailers can be preloaded and transferred to the Waste to Energy facility based on need or capacity.

Certain materials such as yard waste, gypsum wallboard, appliances, some unburnable materials and metal are unloaded separately from garbage in the transfer buildings. Customers delivering these materials cross the scales and are assessed a tipping fee. The yard waste is hauled by independent contractors to the Barr-Tech compost facilities. Refrigerants from appliances are recovered and the remaining metals are sent to a local scrap yard. Each of the sites, including WTE, have a separate delivery area for customers to drop off recyclable materials and household hazardous waste (HHW) at no costs.

Recycling Area

The WTE and transfer stations each have an area designated for recycling. The public is free to drop off any of the following materials: newspapers, magazines, telephone books, glass bottles and jars (clear, brown, green), steel cans, aluminum cans, corrugated cardboard, brown paper bags, scrap metals (ferrous and nonferrous), PETE Code 1, HDPE Code 2 (natural and colored), other plastics (Code 3-7) and mixed paper. Recyclable materials are then transported to local recycling companies. The processing, marketing, and shipment to market of collected materials are handled by private recycling companies on a contract basis.

Household Hazardous Waste Facilities

Hazardous products are used by citizens and companies every day to maintain lawns, run cars, and clean homes. The average household contains between three to ten gallons of hazardous waste. The improper use or disposal of these products is harmful to the environment and human health. It is estimated that over 1,527 tons of household hazardous waste (HHW) are generated annually in Spokane County. This makes the need for permanent drop-off facilities for hazardous waste disposal critical.

From 1987 to the spring of 1991, the Regional System sponsored HHW collection events in an effort to reduce the amount of HHW being taken to the landfill for disposal. In the fall of 1991, the Waste to Energy facility and each of the two transfer stations opened its household hazardous waste fixed facilities to the public. The three sites provide convenient locations for the citizens of Spokane County to dispose of materials such as pesticides, herbicides, used motor oil, antifreeze, flammable liquids and batteries. Household wastes are accepted without charge and are collected in a designated drop-off area. Trained employees then sort the materials as reusable, recyclable or hazardous. Reuse is the preferred method for handling wastes that are easily identified and are not banned, unknown or appear questionable. Materials that require processing, such as oil, antifreeze, vehicle batteries, button-cell batteries, etc. are recycled by commercial/private enterprise. Waste items deemed hazardous are transferred to a secure, on-site storage building where specially trained personnel categorize and package the materials for shipment to a hazardous waste landfill or incinerator.
Spokane’s unique integrated system allows for different household hazardous wastes to be managed according to the best environmental and economical options. Latex paint and oil filters are handled through the WTE facility where the metal is recycled on the back end. Household batteries are diverted from incineration and either recycled or disposed of in a permitted hazardous waste landfill. Local companies are able to recycle Spokane’s used antifreeze and used motor oil. By utilizing these options, Spokane’s average price per pound for managing hazardous waste is one of the lowest in the nation.

Conditionally Exempt Small Quantity Generators

Beginning in 1993, the Regional System has also met the needs of its business community by providing technical assistance and a collection program for businesses that are designated as Conditionally Exempt Small Quantity Generators (CESQG), who only generate small amounts of hazardous waste.

CESQGs commonly call for information related to their industry for disposal options. In most cases, the System reviews the types of waste generated and assists the business in finding methods or resources for proper disposal.

In association with the Department of Ecology (DOE), Spokane has continued to conduct educational audits and provide publications and education in pollution prevention and proper waste management methods to targeted businesses, such as auto dismantlers, auto repair shops, auto body shops, dry cleaning facilities, dentists, and school laboratories. This helps to ensure compliance with local, state and federal law by industry specific businesses.

For businesses that need disposal options, the System facilitates a once-a-month collection service and provides site and technical assistance so that local businesses can conveniently and responsibly manage their waste. A licensed contractor collects the waste and charges the businesses a minimal fee based on material and amount. This partnership has been extremely effective and has limited the cost to the System while at the same time providing a resource for small businesses.

Household Battery Program

Household battery collection began in 1990 as a means of diverting mercury and other heavy metals from the waste stream and the incinerator. Household batteries are collected at curbside as part of the recycling collection program and are accepted from the public at the HHW facilities and many retail stores throughout the county. Code Enforcement litter crews pick up batteries from retail stores on a regular schedule. Excluding auto batteries, which are locally recycled, the battery collections are delivered to a packaging facility for separation and sorting.

Northside Landfill

The Northside Landfill was the primary municipal solid waste facility for Spokane County until 1991. Operated since the 1930s, the landfill has accepted materials ranging from municipal solid waste to ash from an incinerator that operated during the 1940-1950s. In the early 1980s, trace levels of volatile organic compounds from the landfill were detected in the Spokane Aquifer and nearby wells. Because of the nature and levels of contaminants and the clear migration pattern into the groundwater, the United States Environmental Protection Agency (EPA) placed the Northside Landfill on the National Priorities List. Remedial actions were taken including extraction and treatment of groundwater, closing, and capping the landfill.

Also included in the remedial actions was the installation of a gas collection system, guided by the Methane Management Plan for the Northside Landfill that was completed in 1992. The landfill gas collection system serves two functions. The first is to prevent build-up of gas pressure and minimize the potential for lateral gas migration.
The second is to comply with state and county rules and regulations for solid waste management and handling. Landfills are required to eliminate or minimize the threat to human health and the environment from post-closure escape of landfill gas.

Actual closure of the landfill occurred in 1991 except for one Subtitle D cell that continues to accept non-processables, bypass waste from the regional Waste to Energy Plant, and inert demolition debris. The landfill closure and cleanup was achieved at a cost of $25 million, $50 million less than initial estimates, and received the 1994 Outstanding Civil Engineering Achievement Award of Merit from the American Society of Civil Engineers.

Gas Collection

The gas collection system at the Northside Landfill consists of gas extraction wells and manifold piping. Gas is pulled from the ground surrounding the wells by a vacuum exhauster and through piping to an adjustable valve where 400 cfm is pulled into the gas flare facility. Emissions are monitored and tested to meet regulatory requirements. Landfill gas is flared through the flare station. The gas flare station consists of three flares: flame arresters, fans, filters, a propane system and flare instrumentation. An exhauster discharges gas into a refractory-lined flare that provides residence time for organic material combustion. The flame temperature is maintained above 1400 degrees Fahrenheit per regulatory requirements.

Service population, area, and tonnage

Collections

The Department of Solid Waste Management provides commercial and residential refuse, recycling and yardwaste collection services within the boundaries of the City of Spokane. The City of Spokane is 59 square miles with a population of 209,000 people. SWM runs 66 routes, collecting just under 65,000 stops over a 5-day week.

Spokane City (2nd Largest WA City)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Population, 2010</td>
<td>208,916</td>
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<tr>
<td>Female persons, percent, 2010</td>
<td>51.20%</td>
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<tr>
<td>White persons, percent, 2010 (a)</td>
<td>86.70%</td>
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<td>Living in same house 1 year &amp; over, percent, 2007-2011</td>
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<td>High school graduate or higher, percent of persons age 25+, 2007-2011</td>
<td>91.60%</td>
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<td>Bachelor's degree or higher, percent of persons age 25+, 2007-2011</td>
<td>29.20%</td>
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<td>Homeownership rate, 2007-2011</td>
<td>57.10%</td>
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<td>Persons below poverty level, percent, 2007-2011</td>
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<td>Land area in square miles, 2010</td>
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<td>Persons per square mile, 2010</td>
<td>3,526.20</td>
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Service Statistics

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<tr>
<th>Service</th>
<th>Counts</th>
<th>Tonnage</th>
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<tbody>
<tr>
<td>Residential Refuse Carts in Service</td>
<td>62000</td>
<td>64065</td>
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<tr>
<td>Residential Recycling</td>
<td>64000</td>
<td>10200</td>
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<tr>
<td>Yardwaste Carts in Service</td>
<td>21000</td>
<td>13700</td>
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<tr>
<td>Commercial Refuse Containers in Service (1-6 Yard)</td>
<td>2580</td>
<td>36090</td>
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<td>Commercial Refuse Containers in Service (Rolloffs)</td>
<td>260</td>
<td>26250</td>
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<tr>
<td>Commercial Recycling Containers in Service</td>
<td>1825</td>
<td>2030</td>
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Table 1 - Pop., Area, Tonnage - Collections
Disposal

The Regional System provides services to the greater Spokane County area. Spokane County is 1,763 square miles with a population of 471,000 people. The following table provides demographic and disposal information for the Waste to Energy, Valley and North County Transfer Stations and the Northside Landfill programs and services.

### Spokane County (4th Largest WA County)

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
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<tbody>
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<td>Population, 2010</td>
<td>471,221</td>
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<tr>
<td>Female persons, percent, 2011</td>
<td>50.50%</td>
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<td>White persons, percent, 2011 (a)</td>
<td>90.30%</td>
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<td>Living in same house 1 year &amp; over, percent, 2007-2011</td>
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<td>High school graduate or higher, percent of persons age 25+, 2007-2011</td>
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<td>Bachelor's degree or higher, percent of persons age 25+, 2007-2011</td>
<td>28.60%</td>
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<tr>
<td>Homeownership rate, 2007-2011</td>
<td>64.70%</td>
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<td>Persons below poverty level, percent, 2007-2011</td>
<td>14.40%</td>
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<td>Land area in square miles, 2010</td>
<td>1,763.79</td>
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<td>Persons per square mile, 2010</td>
<td>267.2</td>
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### Total Inbound Materials (tons)

<table>
<thead>
<tr>
<th>Category</th>
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<tbody>
<tr>
<td>Municipal Solid Waste (refuse)</td>
<td>291,000</td>
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<tr>
<td>Yardwaste</td>
<td>38,000</td>
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<tr>
<td>Whitegoods</td>
<td>972</td>
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<tr>
<td>Non-processables</td>
<td>6,154</td>
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<td>Total Transferred Materials (tons)</td>
<td>25182</td>
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<tr>
<td>-------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Garbage (tons)</td>
<td>19200</td>
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<tr>
<td>Garbage (loads)</td>
<td>829</td>
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<tr>
<td>Sheetrock (tons)</td>
<td>5979</td>
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<tr>
<td>Sheetrock (loads)</td>
<td>284</td>
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<table>
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<tr>
<th>Total Recyclable Materials (tons)</th>
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<tr>
<td>Waste to Energy</td>
<td>940</td>
</tr>
<tr>
<td>Valley Transfer Station</td>
<td>1005</td>
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<tr>
<td>Colbert Transfer Station</td>
<td>988</td>
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| Northside Landfill (tons)                 | 9500 |
| Organics to Barr-Tech (tons)              | 35828|

<table>
<thead>
<tr>
<th>Waste to Energy Plant (tons)</th>
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<tbody>
<tr>
<td>Average Tons Processed at WTE (2004-2011)</td>
<td>272000</td>
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<tr>
<td>Average Tons of Ash to Regional Disposal (2004-2011)</td>
<td>80507</td>
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<tr>
<td>Average Recovered Metal from Ash (2004-2011)</td>
<td>8927</td>
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<tr>
<td>Average Whitegoods from Tipping Floor (2004-2011)</td>
<td>1440</td>
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<tr>
<td>Average Electrical generation (MWh) (2004-2011)</td>
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<table>
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<tr>
<th>Customer Counts (All Facilities)</th>
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<tr>
<td>Waste to Energy</td>
<td>149000</td>
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<tr>
<td>Valley Transfer Station</td>
<td>172000</td>
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<tr>
<td>North County Transfer Station</td>
<td>99000</td>
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<tr>
<td>Northside Landfill</td>
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<table>
<thead>
<tr>
<th>Household Hazardous Waste (tons)</th>
<th>578.57</th>
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<tbody>
<tr>
<td>Recycled</td>
<td>364.27</td>
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<tr>
<td>Energy Recovery</td>
<td>83.6</td>
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<tr>
<td>Waste Contractor</td>
<td>103.8</td>
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<tr>
<td>Total Batteries Collected (tons)</td>
<td>32</td>
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<tr>
<td>Alkaline (tons)</td>
<td>27</td>
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<tr>
<td>NiCad/Rechargeable (tons)</td>
<td>5</td>
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<tr>
<td>HHW Contacts</td>
<td>5120</td>
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<td>HHW Participation</td>
<td>4325</td>
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<td>CESQG Contacts/Referrals</td>
<td>815</td>
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Table 2- Pop., Area, Tonnage - Disposal
System Effectiveness

System effectiveness is measured using three criteria:

- Reduced liability
- Financial stability
- Responsiveness

The system serves the greater population of Spokane County and its local cities. By investing in an integrated solid waste management system, Spokane has been able to reduce future liabilities to its population and natural resources. The Waste to Energy facility is not only able to process all generated waste within the county but avoids the traditional environmental impacts of landfilling since processed waste is disposed of as inert ash. Additionally recyclable materials and HHW are diverted to better methods and technologies for disposal.

Today, tipping fees are at the same rate they were a decade ago. The system has been able to maintain its core functions while at the same time developing and implementing new programs and services without financially impacting county and city residents. Rate increases to residential collections have remained below the average rate of inflation since 2002. Though SWM has been able to increase levels of service in newly annexed areas, implement single stream recycling, and continue to automate and update collections fleet.

The primary intention of the System is to provide programs and services that align with community needs and values. As Spokane, the State of Washington, and the United States, moves towards the vision of a global community, our understanding of our impacts and responsibilities evolve. While many of the decisions we make regarding waste management are specifically directed with our corner of the world, we are always concerned with the consequences of our practices on a larger scale. As markets, regulations, and technologies change, the system is poised to adapt and respond to the changing needs and priorities of our local, regional, and global communities.

Environmental Sustainability

Spokane has always embraced a sustainable ideology. Historically, the city’s placement along the Spokane River has influenced how the community practices stewardship. The river has been the primary source of power in the area since 1890. Spokane’s early reliance on renewable resources has had a significant impact on its development and decision making. With respect to solid waste management, the decision to build the Waste to Energy facility was in part a commitment to “renewable” resources. The system has continued to embrace sustainability both externally and internally. Externally, consulting and committee service is dedicated to better use of natural resources, lessening toxins in the environment and finding better methods of reducing our carbon footprint. Internally, the System has been innovative in finding alternatives to disposal and better methods of reuse.
The following are some of the ways that the System is addressing sustainability:

**Environmental Management System (2010)**

The System is implementing an Environmental Management System (EMS) based on ISO-14001 standards. The EMS is used to review decision making based on the following criteria: reducing environmental impacts of City operations and services in accordance with established environmental policies, laws, regulations, codes of practice, and other environmental requirements. The EMS framework integrates a Sustainability Management System (SMS) to further identify ways to reduce waste and cost, as well as implement sustainable business practices.

- The EMS is a proactive management tool that helps organizations incorporate environmental considerations into day-to-day operations.
- The EMS produces both economic and environmental rewards for Spokane residents by reducing cost, promoting environmental stewardship and improving the City’s environment.

**Solid Waste Management Fleet Global Positioning System (2010)**

- Fuel savings from 85% idle time reduction - approximate savings $70,000
- Fuel savings from missed pick-ups reduced 75% - approximate savings $31,000
- Fuel savings through better driving practices (weekly route comparisons)
- Fuel savings and less miles driven through route management
- Paper reduction of 520,000 sheets annually by elimination of route sheet printing
- Direct text communications and “canned messages” - no can, missed, go back to, etc.
- Reduced carbon emissions
- Reduced overtime on missed pick-ups, utilizing “closest truck to” feature
- Vehicle maintenance alerts (on board diagnostics)
- Traffic and weather updates
- Printable maps

**Solid Waste Management Hybrid Hydraulic Launch Assist Vehicles (2011)**

Hydraulic Launch Assist (HLA) technology works by recovering up to 75 percent of the energy normally lost as heat by the vehicle’s brakes in the form of pressurized hydraulic fluid. This fluid is stored in an on-board accumulator until the driver accelerates the vehicle.

- Fuel savings using stored energy to launch the vehicles
- 18% improvement in acceleration
- 50% reduction in annual brake re-alignment services
- Reduced emissions

**Solid Waste Management Compressed Natural Gas Refuse Vehicles (2015)**

Preliminary research for conversion of refuse collections vehicle to Compressed Natural Gas (CNG).

- Reduced CO2 emissions 30-40%
- Reduced smog emissions 60-90%
- Reduced maintenance costs
- Reduction in fuel costs per gallon equivalent to 50%
- Reduction in oil change frequency
- 87% of CNG available is domestically produced
**Xeriscape Landscaping and Reused Material Design at System Facilities (2010)**

Xeriscape landscaping, by definition, is landscaping designed specifically for areas that are susceptible to drought or for properties where water conservation is practiced. Derived from the Greek *xeros* meaning "dry," the term, Xeriscape means literally "dry landscape."

- Cost savings by reusing materials in design of gardens
- Lower water bills - maximizes rainfall
- Less time and work needed for maintenance
- Native plants used in Xeriscape are hardy and less susceptible to drought impacts

**Re-refined Motor Oil in System Fleet (2009)**

- Cost neutral
- Use of materials collected at HHW facilities
- Approximately 60% less energy to re-refine used oil
- Reduction in greenhouse gasses

**Remanufactured and Repackaged Antifreeze in System Fleet (2009)**

- Cost savings - $11.65 new/$4.35 remanufactured
- Use of materials collected at HHW facilities
- Repackaging and distribution to all City fleet using reuseable code 2 plastic jugs

**Environmentally Responsible Purchasing (ERP)**

- Purchase of scanner/printer - scanning documents into a searchable electronic database
- Repainting of offices using 95% recycled paint (Green Seal GS-43 standard)
- Purchase of post consumer recycled carpeting, pad and building materials
- Purchase of retread tires for use on Solid Waste vehicles

**GreenDriver (2010)**

GreenDriver Online Driver Training is the fleet industry’s only environmental business focused on reducing mobile source CO₂ emissions through driver education and behavior management. According to the EPA, up to 33% of a vehicle’s fuel efficiency is impacted by driver behavior.

- Reduced CO₂ emissions
- Reduced fuel costs
- Increased MPG
- Enhanced driver awareness
- Measures and reports driver performance
- Benchmarks drivers against peers


- 100% recycling of recovered refrigerant from Household Hazardous Waste (HHW) program
- Free disposal for contaminated materials
- Reimbursed for clean materials (Savings $1,300.00; Gains $800.00 + annually)

**Long Term System Availability**

The use of Waste to Energy technology as a central disposal method in the Spokane Regional Solid Waste System allows for a long-term solution to waste management. The construction of the Waste to Energy facility considered...
future expansion, with the capacity to add a third boiler in response to population or economic growth. The transfer stations are designed with space for additional construction and fleet replacement schedules use time tested methods for assuring continued operation of the collection and transfer fleet. In addition, the availability of an operating cell at the Northside Landfill and existing contracts for the ash residue and bypass materials means that the System can be versatile and flexible enough to respond to critical needs. Overall, the System’s integrated approach to solid waste management means that Spokane County and its interlocal partners will enjoy lasting collection and disposal services with minimal additional costs.

Environmental Protection and Regulatory Compliance Issues and Solutions

Prior to the creation of the Regional Solid Waste System in 1988, Spokane City and County officials worked closely with EPA and the Washington State Department of Ecology (DOE) in designating and closing both the Northside and Southside landfills under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Superfund Amendments and Reauthorization Act (SARA). Consultation and input from Washington State Department of Health, the DOE, Spokane Regional Health District, Spokane County Air Pollution Control Authority (now Spokane Regional Clean Air Agency) was instrumental during all phases of planning, permitting and constructing the regional facilities. Operationally, the System has close working relationships with these agencies, particularly with the Spokane Regional Clean Air Agency and the Spokane Regional Health District.

The System has always taken a proactive approach to regulatory compliance and consistently strives to meet standards well above regulatory requirements. Site and facility inspections are conducted bi-annually by regional agencies, weekly by technicians and daily by staff. Technical training for employees has always exceeded Occupational Safety and Health Administration (OSHA) standards, and whenever possible staff is provided the opportunity for certification by outside organizations and agencies (Alliance of Hazardous Materials Professionals, Solid Waste Association of North America, North American Hazardous Materials Management Association, etc).

Over the last two decades the System has been involved in the regulatory and legislative processes. Administrative and technical staff serve on a variety of committees and boards, and are members of professional organizations that promote environmental stewardship and best practices in solid and hazardous waste management. The System supports materials management legislation and Public Utilities directors participate on solid waste advisory boards at the regional and state level.

Financial and Business Management

Financial and Operational Goals

Pursuant to recommendations of the Comprehensive Solid Waste Management Plan, the City of Spokane borrowed $50 million on a short-term bond anticipation note in 1984. During the four-year life of these bonds, the total revenue earned from the arbitrage (the interest earned over and above the interest due on these notes) was approximately $4,700,000.

The arbitrage funds were used to support the Spokane Regional Solid Waste System in developing the feasibility of a Waste to Energy facility, the environmental review process and procurement process. Waste reduction/recycling, school programs, litter control programs, household hazardous waste management and ash residue disposal options were also supported by these funds.

Permanent long-term financing was secured in 1989, at which time the $50 million short-term notes were paid off. The City of Spokane borrowed $105,250,000 in revenue bonds to finance the cost of acquisition and construction of the Waste to Energy facility, two transfer stations, recycling and household hazardous waste areas, and a landfill cell for disposal of bypass and non-processable materials. In addition to the revenue bonds, the System was financed by a $60 million grant from the DOE. The City Council and County Commissioners approved the
grant in 1986. On November 24, 1986, the $60 million grant, which provided 50% matching funds for eligible expenditures, was executed.

On December 1, 2011, the final payment was made on the revenue bonds issued to build the major facilities of the System and finance the closure and clean up of the region’s previously used landfills. As of 2011, the System is debt-free. The daily operations of the System are covered under two separate enterprise funds, Fund 449 and Fund 450.

**Fund 449**

Disposal fees are collected from residents, businesses, and haulers, including the City of Spokane at the WTE Facility and System transfer stations. Revenues from electricity sales are received from Puget Sound Energy. Interest revenues are received from investments. Grants from the Department of Ecology are used for funding waste reduction, recycling, and household hazardous waste programs.

Revenues are received from the sales of recyclables collected from drop-off programs at System transfer stations. The System has restricted cash that is used to manage replacement of its equipment and transfer fleet. A rate stabilization fund was established in 1988 to manage the increase in tipping fees resulting from System improvements.

**Fund 450**

Collection fees, which include a disposal component, are collected from city residents and businesses on the city’s utility bill. Revenues are received from the sale of recyclables collected by the City’s curbside collection program. Restricted cash is used to manage replacement of its collection fleet and other equipment. The general fund transfer is used to cover community projects and code enforcement programs.

The vast majority of the city’s rate revenues are derived from residential customers. Currently, the city has five major classes of service: residential, commercial container, commercial compactor, commercial recycling, and residential “clean green”. Each customer class is charged a monthly fixed rate based on the size of the can/dumpster and number of pickups.

At present, the solid waste utility pays state taxes of 1.5% of revenues. In addition, the solid waste utility pays 20.0% of revenues in the City utility taxes.

**Cost Effectiveness**

In comparison to other major and adjacent cities, collection rates in the City of Spokane are among the lowest relative to population. Note that the Figure 12 lists the top six most populated cities in Washington State in order from left to right; Spokane Valley (10th largest city) is listed for comparison with a nearby city with private hauling franchise.
Solid Waste Management Monthly Rates

<table>
<thead>
<tr>
<th>Residential</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>32-gallon refuse cart</td>
<td>$14.82</td>
</tr>
<tr>
<td>68-gallon refuse cart</td>
<td>$26.84</td>
</tr>
<tr>
<td>95-gallon refuse cart</td>
<td>$39.18</td>
</tr>
<tr>
<td>Yardwaste cart</td>
<td>$14.16</td>
</tr>
<tr>
<td>Recycling cart</td>
<td>No charge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Commercial</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1 yard dumpster</td>
<td>$79.56</td>
</tr>
<tr>
<td>2 yard dumpster</td>
<td>$159.12</td>
</tr>
<tr>
<td>3 yard dumpster</td>
<td>$238.68</td>
</tr>
<tr>
<td>4 yard dumpster</td>
<td>$318.24</td>
</tr>
<tr>
<td>6 yard dumpster</td>
<td>$477.36</td>
</tr>
<tr>
<td>Recycling cart</td>
<td>$13.42</td>
</tr>
<tr>
<td>Recycling 1 yard dumpster</td>
<td>$28.00</td>
</tr>
<tr>
<td>Recycling 2 yard dumpster</td>
<td>$42.96</td>
</tr>
<tr>
<td>Recycling 3 yard dumpster</td>
<td>$64.44</td>
</tr>
<tr>
<td>Recycling 4 yard dumpster</td>
<td>$85.92</td>
</tr>
<tr>
<td>Recycling 6 yard dumpster</td>
<td>$128.89</td>
</tr>
</tbody>
</table>

Table 3 - Collection Rates

System tipping fees rank number 16 out of 39 counties in Washington State (for comparison information go to [http://www.ecy.wa.gov/programs/swfa/solidwastedata/](http://www.ecy.wa.gov/programs/swfa/solidwastedata/); note that Spokane County tipping fees were reduced in May 2013 and that map comparisons reflect 2012 data).

Tipping and Recycling Fees (tons)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste to Energy</td>
<td>$ 98.00</td>
</tr>
<tr>
<td>Valley Transfer Station</td>
<td>$ 103.00</td>
</tr>
<tr>
<td>North County Transfer Station</td>
<td>$ 103.00</td>
</tr>
<tr>
<td>Northside Landfill</td>
<td>$ 98.00</td>
</tr>
<tr>
<td>Minimum Refuse Rate (All Facilities)</td>
<td>300 pounds $ 15.00</td>
</tr>
<tr>
<td>Yardwaste (All Facilities)</td>
<td>$ 44.00</td>
</tr>
<tr>
<td>Minimum Yardwaste Rate (All Facilities)</td>
<td>220 pounds $ 5.00</td>
</tr>
</tbody>
</table>

|                |
|----------------|--------|
| Recycling (County Residents) | No charge|
| Household Hazardous Waste (County Residents) | No charge|

Table 4 - Tipping Fees
Planning and Forecasting Methods

Planning and forecasting is accomplished through a number of different methods. Operational and facility needs assessment is achieved through the Spokane County Comprehensive Solid Waste Management Plan development process (see subsection Change Management). The Plan uses historical and statistical data to project program and service needs within the greater Spokane area. In conjunction with the development of the Comprehensive Plan, the System relies on consultants, advisory committees and data from federal, state and local resources (e.g. Census, Department of Ecology, permitting). Fleet and equipment replacement is projected in a Ten Year Plan. Replacement schedules are based on industry projections and service records. Capital improvements outside those determined in the Comprehensive Plan are based on immediate need and prioritized through the budgetary process.

All capital improvement projects are assumed to be funded through existing reserves and rates. Though there are a number of different methods which may be used to fund the capital plan, the city funds all capital improvements through rates and reserves. It is important to note that the city’s capital expenses for the solid waste utility are primarily related to the replacement of vehicles.

Operation and maintenance (O&M) expenses are incurred by the city to operate and maintain the existing facilities in service. The costs incurred in this area are expensed during the current year and are not capitalized or depreciated.

Employee Relations Program

Employees within the System are selected through Civil Service. Civil Service is responsible for establishing and maintaining a merit employment system in city government for the citizens of Spokane. The merit system ensures a fair, competitive selection process for City government positions. Civil Service in Spokane covers approximately 1,900 positions in 315 different job classifications.

Collections and Disposal Operations are comprised of 195 permanent and 30 seasonal employees. Permanent employees receive medical, dental and life insurance benefits for themselves and their families, as well as retirement and deferred compensation programs. The majority of employees, including seasonal employees, are represented by collective bargaining units, though departmental directors are appointed at will.

Employees at every level are provided technical and professional training as part of their normal employment. New employees receive procedural and technical training as drivers, equipment operators and operations staff. Collectors and Heavy Equipment Operators are provided training to obtain their CDL and endorsements. HHW staff complete 24 Hour HAZWOPER training prior to working in the System facilities. Just recently, the System implemented an employee created training program that focuses on promotional development, customer service, communication and conflict management strategies. Semi-annually, staff attend a safety and customer service training which draws on local Human Resource Specialists and emphasizes the System’s values and mission. In addition to departmental training, employees who function in specialized areas attend local, regional and national seminars and trainings. Employees can also apply for financial compensation for coursework that is applicable to their classification or promotional pathway.

The City of Spokane also recognizes its employees through a Customer Service Employee Award Program. The program honors employees, either individually or as a group, who provide exemplary customer service to citizens and other employees. Nominations can come from peers, supervisors, other departments or outside entities. Award submissions are reviewed by committee and awards are presented by the Mayor quarterly. Internally, in the spirit of fun, there is a monthly “golden can” award for facilities that meet special criteria; least absenteeism,
positive customer comments, etc. Both formally and informally, this type of recognition bolsters morale and teamwork, and promotes a positive competitive spirit in the workplace.

As a government agency, the System is required to keep documentation on all of its employees, both past and present. Aside from routine employment records, the department tracks absenteeism, job related injuries, FMLA related sick leave usage and disciplinary action. Historically, the System has been able to reduce job related injury and its impacts. In addition, particularly over the last five years, managers have purposefully documented commendable employee behavior. Employees are provided documentation of positive customer comments and their files are updated accordingly.

**Change Management**

Under Washington State law (Chapter 70.95 RCW), each county, in cooperation with the cities located within, is required to prepare a coordinated, comprehensive solid waste management plan. Solid waste management plans in Washington State must be kept current. Plans are required to be reviewed every five years and updated or revised as necessary. Plans must consider a 20-year planning horizon. The *2009 Spokane County Comprehensive Solid Waste Management Plan* (2009 Plan) documents existing waste management policies and handling methods. It establishes a waste management framework that will guide Spokane County in the years ahead.

The 2009 Plan update was prepared under the direction of the System. Guidance and recommendations were provided by representatives from regional cities and the County, the Spokane Regional Solid Waste Liaison Board (Liaison Board), the Solid Waste Advisory Committee (SWAC), the Stakeholder Input Committee (SIC), and the public. The Department of Ecology provided additional guidance during the planning process.

The plan draws on statistical trends and forecasts to develop management strategies. The Plan outlines a specific course of action regarding solid waste disposal and the management of System facilities. The goals of the plan are as follows:

- **Satisfy State priorities for waste management.**
  - Objectives:
    - Reduce disposal through waste reduction and reuse.
    - Measure progress in achieving goals and objectives.

- **Ensure future financial integrity of solid waste management in the county.**
  - Objectives:
    - Ensure financial clarity and establish measures for accountability.
    - Maintain sufficient funding mechanisms.

- **Provide for efficient collection and transfer of MSW and recyclables.**
  - Objectives:
    - Ensure access to collection services for residences, businesses, and industry.
    - Locate recycling facilities and System transfer stations to optimize service levels and transportation efficiencies.
    - Recycle prior to WTE processing or landfill disposal.
    - Encourage competition to reduce costs of collection and processing.

- **Ensure adequate disposal capacity.**
  - Objectives:
    - Promote research opportunities for new solid waste management technologies.
    - Provide adequate disposal capacity for municipal solid waste and, as needed, WTE ash through 2027.

- **Establish guidelines and strategies for management of specific waste streams.**

- **Continue public outreach and education efforts.**

- **Maintain proper monitoring and regulatory procedures.**
Community Relations

Community Outreach and Feedback

Public Education

Public awareness, outreach and education are instrumental to the success of a community programs. Spokane has developed a Recycling Hotline, educational programs, publications, website and tours to better educate and assist the public. The System also provides funding and support for business and neighborhood outreach programs, litter control activities, and an internal recycling program.

Recycling Hotline

The Spokane Regional Recycling Hotline has been in operation since March 6, 1989. The Hotline provides information on recycling, including composting, system facilities and hazardous waste disposal options for households or businesses. As part of Spokane's Recycling Awareness campaign, the Hotline is advertised on radio, in the newspaper, yellow pages, and brochures. Regulatory or technical questions are directed to the appropriate agency or internal department.

Educational Programs

Preparing young people to become responsible citizens is one of the many tasks that educators face today. A variety of educational services are available for teachers and students in Spokane County school districts.

Classroom Support

A Recycling Education Specialist visits classrooms at the invitation of teachers to make presentations that fit with classroom curriculum. Topics include: Waste Reduction and Packaging; Recycling; "The How's and Why's”; General Solid Waste Overviews; Composting; and Deciphering the Plastics Code. Videos and print materials on solid waste and recycling are available as a resource. One hands-on interactive activity that is popular is papermaking from waste paper collected from their classrooms.

Youth Environmental Conference

The 2011 Spokane Youth Environmental Conference (SYEC) was held at Spokane Community College. SYEC is a one-day event for Spokane County students, grades seven through twelfth, to display their environmental research projects and experience a day of hands-on environmental education. The event has been a great success and is now entering its fifteenth year.

The Green Zone

Along with Inland Northwest agencies, businesses and organizations, the System developed an interactive walk-through learning center called the “Green Zone.” The Green Zone capitalizes on the the familiar slogan - “Think globally, act locally” by introducing positive options for creating a sustainable environment. The Green Zone provides a hands-on experience for teachers, students and groups.

Publications

The Recycling RAP began in January 1990 as a stand-alone quarterly publication in conjunction with the Make a World of Difference assembly program. The RAP provides supplemental information for 3,000 Spokane County teachers.

The Recycling RAP and kids enviro page is published monthly during the school year. The RAP and kids enviro page became companion pieces in September 1995. The RAP provides supplemental information to accompany the full-page kids enviro page in the kids newspaper. The kid’s newspaper goes home with approximately 38,000 elementary school children each month.
**One Man’s Trash**, is a quarterly insert in the Spokesman-Review. Information for local articles is developed by Regional System staff.

As part of its continuing effort to increase public participation and awareness, the regional staff regularly provide exhibits and brochures for community events. Literature is distributed at local shows and events throughout the county.

**Internet and Social Media**

The System web site ([www.solidwaste.org](http://www.solidwaste.org)) went live in 1996 and provides information about System facilities and programs, statistical data, general information on recycling and composting, and announcements of future events. The website is an essential resource for the regional system to make information available to the public.

**Talk Trash**

Beginning in 2011, the System launched the “Talk Trash Spokane” campaign that uses a Facebook page ([https://www.facebook.com/talktrashspokane](https://www.facebook.com/talktrashspokane)) and a website ([http://www.talktrashspokane.com/](http://www.talktrashspokane.com/)) to help people in the area learn more about recycling and reducing trash. The sites are promoted through locally broadcast commercials and billboards. The Facebook page allows users to post comments and show support for various programs in the Spokane area. Additionally, the sites feature links to supporting information, video streaming, and articles on relevant topics.

**Tours**

Tours of the Waste-to-Energy facility are conducted every Wednesday and Thursday at 10 a.m. and 1 p.m., and at other times by special arrangement. The tour begins with an informational video and highlights the incinerator, metals recovery, recycling and household hazardous waste areas of the WTE.

**Outreach Programs**

**Waste Reduction and Audit Program (WRAP)**

Business waste audits began in 1989, though the program took a big step forward in 1993 when the Regional System contracted with Pacific Materials Exchange (PME). Business waste assessments are offered to Spokane County businesses free of charge.

**Neighbor Councils Annual Clean-up Program**

In 1998, the Regional System offered $5,000 dollars to Neighborhood Councils in an effort to help clean up neighborhoods in Spokane. The program offers four types of service; Incinerator/Transfer Station passes to offset or eliminate scale charges, locally placed community roll-offs (20-yard containers), curbside pickup and disposal of small items, and curbside pickup and disposal of large appliances.

**Litter Control**

The System provides financial support for the litter and illegal dump cleanup activities of the Code Enforcement Department. Litter crews work throughout Spokane County cleaning trash, which includes roadside litter and illegal dumpsites. In addition, the Litter Crew abates materials from locations on public rights of way and investigates illegal dumping on private property.

**Host Community Considerations**

The City and County of Spokane are dedicated to the efficient delivery of high quality, cost effective, and environmentally sound services. The management of solid waste within the county is a critical component in making Spokane one of the premier cities in the Northwest. Not only is the System key in providing the necessary infrastructure for the collection and disposal of solid waste, but it is instrumental in helping Spokane achieve its
environmental objectives. Outreach and education about waste management, particularly campaigns about the proper management of hazardous waste, also helps promote water quality in the Spokane River and aquifer. Participation on committees and consulting services in the community help our local businesses find better ways to divert materials. Partnerships with other departments, organizations and agencies reduce cost and increase public awareness. Throughout its history, the System has played an integral part in maintaining the health and wealth of the Spokane community and will continue to do so as it adapts to the needs and expectations of its citizenry.

**Customer Service**

Since its formation, the Regional Solid Waste System has been committed to customer service. System staff is available weekdays to address complaints, answer questions, and provide referral information and scheduling.

In Collections, phones are staffed during operating hours. Service, billing and routing issues are addressed immediately by clerical staff and supervisors. The department has a route dedicated to collecting any “misses” or carts that were not picked up during normal activity within a 24-hour period. Accidents, damages or customer complaints are remedied by a route supervisor in the field.

In June 2013, SWM will be conducting a survey regarding its collection services. Working with an academic statistician and Spokane County Elections Office staff, the department will be sending ballot style surveys to randomly selected residents within the Spokane City boundaries. The survey is designed to assess customer satisfaction with curbside refuse, recycling, and yardwaste collections, particularly since the implementation of single stream recycling in 2012. Further, the survey is designed to augment findings from research conducted by SWM in 2010 that audited waste from randomly selected blocks throughout the city. The department will use the data from both studies, in conjunction with census information, to better understand how Spokane citizens feel about collection and how the department can provide higher levels of service.

At each System disposal location, facility staff is available during operating hours seven days a week. On-site staff have direct interaction with the customers and are responsible for the screening and acceptance of materials on the tipping floor and in the recycling/HHW areas. A fundamental component of our customer service philosophy is education. Administrative and on-site staff provide information to customers regarding facility operations, regional programs, and waste handling. In addition, customers are offered pre-paid mail-in comment cards upon request. Customers can request a direct response from System staff and are given the opportunity to rate facilities and performance.

More recently, the System has conducted two major customer satisfaction surveys. A third will be completed during the 2013 calendar year. Customers at each of the facilities were randomly sampled and interviewed regarding their experience on-site and their program interaction. The following represents the major findings:

- Facility location meets or exceeds expectations for approximately 99% of respondents.
- Employee approachability meets or exceeds expectations for approximately 99% of respondents.
- Scale house employee performance meets or exceeds expectations for approximately 99% of respondents.
- Tipping floor employee performance meets or exceeds expectations for approximately 98% of respondents.
- Fairness of cost meets or exceeds expectations for approximately 91% of respondents.
- Overall experience meets or exceeds expectations for approximately 99% of respondents.
- 79.5% of respondents use facilities to dispose of one item

Longitudinally, survey results demonstrate high levels of customer satisfaction at each of the facilities. Moreover, the surveys can be used as a benchmark as the System amends its program and services. Already the survey has helped System staff better identify how customers interact with the facilities. Many customers use the facilities for disposal of refuse or yard waste only and are unaware of other programs. Because of these surveys, the System has been better able to target areas where it can provide better customer service, design facility specific employee training and develop targeted outreach and education literature.
The System is committed to internal customer service, how employees interact with each other, supervisors and other departmental staff. Through a series of anonymous online surveys and an organizational study, the System has been able to understand key internal customer service issues, and identify opportunities for employee growth and development. The surveys and study have resulted in the development of an internal customer service training program and the formation of two employee led committees. These committees have identified key training strategies to be implemented within the program. They now are working with consultants to create materials specific to the organization’s customer service standards, and are actively screening secondary materials for future training development.

Conclusion

The Regional Solid Waste System would like to thank the SWANA Planning & Technical Division for reviewing its application for the 2013 Integrated Solid Waste Management System Excellence Award. The System is a committed member of SWANA and appreciates the opportunity to highlight Spokane’s programs and services. We feel that recognition and acknowledgement of our contemporaries and their various programs is a benefit to the entire solid waste management professional community.