

Bureau of Environmental Services
Budget Advisory Committee FY 2014-15
Environmental Services Management Practices and Innovations

SHARP Program

The Safety and Health Achievement Recognition Program (SHARP) is a program that is overseen by the Oregon Occupational Safety and Health Division (OR-OSHA) that encourages employer self-sufficiency in safety and health management. OR-OSHA has recognized two high hazard BES groups, Wastewater and Construction Services, as being self-sufficient and having successfully incorporated safety and health management principles into the workplace. Both groups have achieved SHARP status for five consecutive years and have graduated into OR-OSHA's top safety performers. Currently, BES Risk and Safety Staff are part to the OR-OSHA Safe Alliance that assists other Oregon Employers with their safety and health efforts and obtaining SHARP certification. Additionally, SHARP information and action plans are incorporated into the Bureau's 5-Year Risk Management Plan that is required by Oregon Self-Insured Rules and City Ordinance.

Owner Controlled Insurance Program (OCIP)

For several years, BES has implemented an Owner Controlled Insurance Program (OCIP) to cover a number of projects in its capital improvement program. The OCIP has saved ratepayers approximately \$20,000,000 insurance related costs and returned dividends of approximately \$3,000,000. With respect to the East Side Big Pipe and other eastside CSO construction projects alone, OCIP saved approximately \$13,000,000 and was in the top 1% for safety performance for all SAIF's policy holders in Oregon. On average, OCIP is estimated to cost 1.5-2% of construction value, while conventional insurance is estimated to cost 3-5% of construction value. OCIP provides BES the opportunity to buy insurance in bulk using a broker, which results in broader and more uniform coverage, higher limits, and lower pricing. OCIP also provides a more centralized claims management process, which reduces costs and litigation. BES can only pursue OCIP for projects that are or total \$90 million. Examples of other regional OCIP projects include the Moda Center and the expansions of both the Nike and Intel campuses.

The Portland Method

The Portland Method is a construction contracting approach that was developed and implemented by BES staff as part of the design and construction of the West Side and East Side Big Pipe projects. The Portland Method is a hybrid construction delivery method that uses a cost-reimbursable, fixed fee approach rather than a guaranteed maximum price approach. The Portland Method more fairly apportions risk between the owner and contractor. It takes advantage of the contractor's input during the design phase and places no limits on the amount of work that the prime contractor may self-perform. This results in fewer delays and a more cooperative relationship. The Portland Method is now used by other agencies nationally and internationally and has been featured in industry magazines such as Tunnel Business Magazine.



Water Pollution Control Laboratory (WPCL)

The WPCL recently achieved accreditation by the National Environmental Laboratory Accreditation Program, sponsored in part by the U.S. Environmental Protection Agency (EPA) and administered by the State of Oregon's NELAP Program. This third-party accreditation ensures that all environmental data produced by the WPCL meet the highest possible standards and accuracy and precision. The accreditation process included a thorough examination of all lab protocols, written and practical, and a two-day audit during which instrumentation and technical procedures were reviewed in detail.

Screened Inline Flow Through Sediment Trap (SIFT)

BES staff invented the SIFT in 2009 as a way to better meet sediment collection objectives for various projects. Existing tools for collecting sediment in stormwater pipes, particularly in the Portland Harbor/Superfund area, were not trapping and collecting enough sediment to meet analytical requirements. Staff invented the SIFT, a sort of metal colander-type device, as a way to increase the amount of sediment collected. Working with the City Attorney's Office, staff pursued and achieved patent pending status for the SIFT in 2011. To date, 14 SIFTs have been sold, at \$700 each, which has covered the patent application costs. SIFTs were used in a recent pesticide study in Clackamas County by the Portland United States Geological Survey (USGS), with the published results of that study expected to increase awareness of the SIFT in the scientific community.

BES Benchmarking Efforts

BES has engaged in a number of formal benchmarking processes over the past 15 years. Benchmarking has been used to compare either the cost of doing business in certain activity areas, or addressing the best practices in the industry, or both. The most typical partners in benchmarking have been the larger wastewater collection and treatment agencies in the western United States including, but not limited to, King County, City of Seattle, Sacramento Regional, Orange Country (CA) Sewer District, City of Los Angeles, and Contra Costa County. Benchmarking has been explored in the following areas:

- Major Wastewater Treatment Plants 1996 - 2000
- Large Wastewater Treatment Plants 1999
- Engineering Programs 2000
- Capital Improvement Programs 2001
- Collection System 2001
- Asset Management 2009 - 1010

The general findings of the benchmarking processes have typically placed BES in the top tier of best management practices when compared to the other high performance programs. Additional information, including benchmarking reports, is available for anyone interested.



Columbia Blvd Wastewater Treatment Plant (CBWTP) Practices

BIOSOLIDS PROGRAM

The treatment process removes solids from wastewater. Once solids finish the treatment process they are 'biosolids' that can be beneficially re-used. Rather than burn or landfill biosolids, BES' reuses all of its biosolids through the Biosolids Land Application Program. In the past year, nearly 15,000 dry tons of biosolids were applied on specifically-designated ranch land in eastern Oregon. Land application of biosolids improves ranch land productivity and is also the least cost biosolids management alternative.

BIOGAS USAGE

Biogas is a byproduct of the treatment process. Biogas is used at the treatment plant to fuel two large engine generators that produce power and heat for treatment plant operations. The treatment plant also sells some biogas to nearby Malarkey Roofing for fuel use. The plant currently flares off the remaining biogas. The CBWTP will soon begin design of a project to beneficially reuse the rest of its biogas. Project options include installing more engine generators, producing a renewable compressed natural gas vehicle fuel, fueling a solids dryer, or producing natural gas. Project design is expected to begin in 2014.

WASTEWATER REUSE

The CBWTP conserves and re-uses millions of gallons of treated wastewater. The plant uses treated water to lubricate pump seals, spray into treatment units to suppress scum and reduce foaming, and to clean large tanks. Re-using treated wastewater rather than using potable water reduces operating costs and conserves water.

Streamlining Process

In 2003, the City of Portland and Federal agencies signed an Agreement establishing a cooperative streamlining process for federal Endangered Species Act (ESA) consultations. As the bureau designated by City Council to represent the City in ESA work, BES became the lead in coordinating the streamlining process. To be successful with ESA and other water-related permitting requirements, the Streamlining Agreement broadened its membership to include state and local agencies, as well as federal. Through this multi-agency process, multiple environmental laws are addressed in a much more efficient and effective manner. The result has been quicker reviews and permit approvals from the agencies. City projects that once took years to receive permits can now be constructed in 1 to 2 years. This has translated into cost savings for the City and ratepayers.

