Environmental Affairs Annual Report 2022

The Environmental Affairs Department (EA) provides environmental information, waste management services, and regulatory compliance assistance to management and operations programs District wide, delivering on the District's commitment to environmentally responsible utility operations.

Regulatory agency interaction
Spill response and remediation
Pollution prevention
Waste material management
Environmental health and industrial hygiene
Land use and permit assistance
Electromagnetic field information and demonstrations
Other project support

Regulatory Agency Interactions

Inspections, Reporting and Permitting

A number of routine and non-routine interactions occurred with regulatory personnel in 2022. For instance, staff worked with Snohomish County and the Department of Transportation on projects with complex permitting considerations and with the Department of Ecology to complete the review and approval of site cleanup work at the Lynnwood Office. The District also worked with the United States Fish and Wildlife Service associated with several wildlife incidents involving electrical equipment.

A number of programmatic reports and permits were prepared, submitted and maintained by Environmental Affairs in 2022. Examples include:

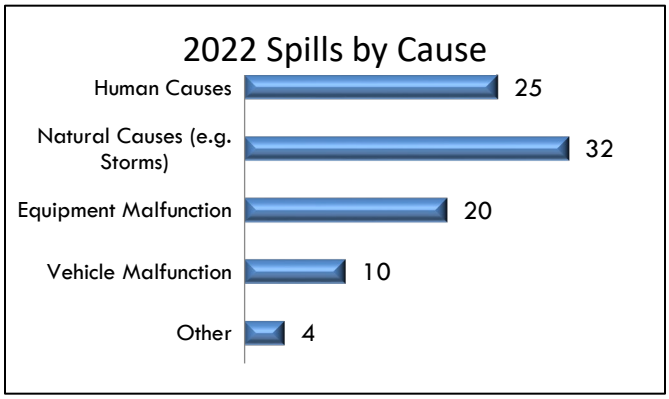
- Emergency Planning and Community Right-to-Know (EPCRA) Tier Two reports were prepared for approximately 109 District facilities that store threshold volumes of mineral oil (typically in substation transformers) or sulfuric acid (typically in batteries at substations or communication sites) and submitted to multiple agencies for District compliance under Section 312.
- Dangerous Waste Annual Reports regarding the District's hazardous (dangerous) waste generation and management activities were prepared for the Department of Ecology. In addition to routine handling of hazardous waste generated from recurring operation activities, in 2022, the District conducted phase I of a multiphase project to decommission MESA II – an energy storage system utilizing vanadium redox flow batteries. This system contained approximately 100,000 gallons of mixed acid electrolyte. Phase I removed 90 – 95% of the electrolyte, which was disposed of under state and federal hazardous waste permits and regulations.
- Data concerning the District's greenhouse gas emissions across all utility operations have been collected since 2010. This information includes emissions from direct sources (e.g. vehicles, generators, etc.) and indirect sources (electricity use). The reporting from this multiyear effort confirmed steady overall reductions in greenhouse gas emissions across District operations. The current emissions calculation protocols provide quantitative comparisons between District specific electricity emissions in contrast to the regional generation sources. The District continues to track emission sources and evaluate updates to emission factors as well as changes in regulatory and reporting requirements.
- Puget Sound Clean Air Agency permits for the District's four registered air sources were renewed.
- Sample analyses reports were provided for the City of Everett Discharge Permit, which allows waste water from the Operations Center Pump & Clean facility to discharge into Everett's sanitary sewer.

- Certification tests of the District's underground storage tanks were performed by an outside contractor and copies of those test reports submitted to the Department of Ecology.
- Regional regulation considerations affecting the operation and maintenance activities for existing electrical infrastructure were discussed with Snohomish County Planning and Public Works staff.
- Spill incidents were reported to the Department of Ecology and when water was involved, to the National Response Center. Follow up written confirmation reports were completed and submitted to the Department of Ecology with the cleanup and restoration information.

Emergency Response and Preparedness

Spill Cleanups, Training and Planning

Environmental Affairs responded to 91 spill incidents in 2022, in which 805 gallons of transformer oil spilled, 28 gallons of hydraulic oil and one gallon of radiator coolant. These spills were due to several factors, as illustrated in the graphic. On average, the District has experienced approximately 100 spills per year over the past 15 years.



Training occurs annually to refresh or orient District staff on emergency response, oil spill cleanups and other important environmental issues. This training is needed in order to maintain and further develop competencies for performing the wide range of work encountered by District personnel. For example:

- Hazardous Waste Operations and Emergency Response (HAZWOPER) certification refresher training was provided to 73 District employees in 2022.
- To more efficiently respond to spills that may be associated with storm events, EA updated the spill response awareness orientation to Crew Guides as part of annual storm season training.
- Planning for spill response is in part accomplished through the preparation of Spill Prevention Control and Countermeasures (SPCC) Plans, a federal requirement for any facility that stores in excess of a defined volume of hazardous substances onsite.

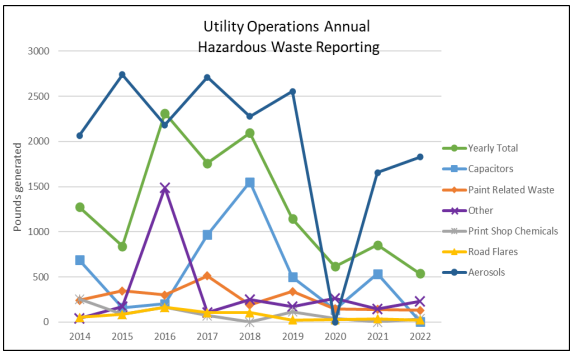
Pollution Prevention

Preventing Waste and Other Sources of Pollution

Environmental Affairs collaborated with other District departments, outside agencies and the private sector on a number of projects in 2022 to reduce waste, prevent pollution and improve District operations. Ongoing institutionalized procedures to recycle insulating oil, return serviceable products, such as partially used aerosol cans or road flares to stock, change out solvent tanks before they become heavily contaminated and move toward operational processes that generate less or no waste also continued. Projects and programs like these successfully reduce the volume of hazardous waste and other pollutants generated by the District.

The challenge of addressing the presence and potential environmental release of polychlorinated biphenyls, or PCBs, from District electrical equipment has been an ongoing effort for many years. The District has now removed all distribution and substation transformers suspected to contain 50 or more

parts per million (ppm) PCBs through both targeting and attrition, although transformers with higher PCB concentrations (greater than 50 ppm) are occasionally discovered. By evaluating in-service distribution transformers using PCB oil sample results from tested units, as well as other commonalities, EA identifies electrical equipment suspected to contain PCBs and works with other groups to schedule those units for removal and proper disposal. The current focus is on replacing all in-service equipment that may have any amount of PCB contamination as a result of pre-1980 manufacturing practices. In 2022 testing confirmed PCB contamination in 33 transformers, none of which contained over 50 ppm PCBs. All articles were properly processed for disposal at permitted facilities.

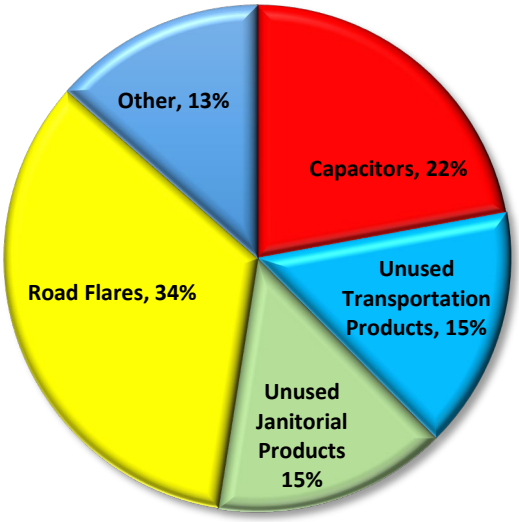


The District continues to be actively involved in the State Commute Trip Reduction Program which, among other benefits, reduces traffic, air pollution and greenhouse gas emissions. In 2022, COVID-19 continued to shift the nation's commuting habits from ridesharing to telecommuting and working from home. Through most of 2022 there were approximately 330 District employees working from home full time and an additional 20 employees working from home part time. There were approximately 350 employees working an office hybrid schedule full and part-time, while approximately 525 worked at on-site locations throughout the District.

Waste Management

Recycling and Disposal of Hazardous Waste and Contaminated Materials

2022 Hazardous Waste Generation
(calculations based on pounds)



District's "conventional" hazardous or dangerous waste stream, although not large in volume, is quite varied. It includes the contents of punctured waste aerosol cans (1,870 cans in 2022, or approximately 468 pounds of steel recycled), fluids from non-functioning capacitors, waste parts washer solvent (if contaminated), old road flares and other miscellaneous hazardous waste resulting from different projects and processes. Overall, a total of approximately 975 lbs. of hazardous waste were generated by the District and recycled or disposed of in 2022. Of this waste, 120 pounds of unused and outdated sodium fluoride was disposed. This non-recurring waste was a water treatment product that was unusable as it had passed its shelf life and no longer met District specifications.

The amount and timing over which this waste was produced allowed the District to maintain its status as a small quantity generator for operations throughout the year. A similar volume of hard-to-handle but not necessarily hazardous waste such as latex paint was also generated and properly managed. Since the disposal of the MESA II mentioned above electrolyte is a nonrecurring waste stream which would

substantially skew the trends for recurring waste streams, numbers for the electrolyte disposal were intentionally not included in the graph.

A total of 636 obsolete or damaged distribution transformers were sold by the District for recycling in 2022. Oil with PCBs was treated by a chemical de-chlorination process, destroying the PCBs. Metals and oil from obsolete electrical equipment were recycled, yielding approximately $59,550 in revenue for the District.

The District also generates waste computer monitors, CPUs, televisions, segregated circuit boards and other electronic wastes which may contain heavy metals and are regulated as a special type of hazardous waste. EA coordinated the recycling of these materials and in 2022, 744 lbs. of monitors, CPUs and laptops, 453 lbs. of circuit boards and 1202 lbs. of miscellaneous electronic waste were recycled through this program.

A total of approximately 8,002 lbs. of batteries, not counting substation or vehicle batteries managed through separate programs, were collected from District facilities for recycling or disposal by EA in 2022. Of this total, 7,045 pounds of lead-acid batteries from upgrades to the Jackson Powerhouse backup power supply were properly recycled. Other battery chemistries recycled included alkaline and carbon-zinc batteries (550 lbs.), rechargeable nickel-cadmium, nickel metal hydride and lithium-ion batteries (363 lbs.), and other batteries such as lithium primary and lead-acid (44 lbs.).

Approximately 2164 high pressure sodium (HPS) street light lamps, which contain a small amount of mercury, were generated and collected for recycling in 2022. Historically, District streetlights used these types of lamps, however, the District is almost finished with a multi-year project to change over all HPS street light lamps to LED technology, which last much longer and are more energy efficient. A District contractor recycles the outdated HPS fixtures that are generated.

Waste fluorescent lights, which also contain a small amount of mercury, as well as ballasts generated from the routine maintenance of District facilities, are likewise collected for recycling. In 2022, approximately 2,080 linear feet of fluorescent lamps and 10 lbs. of ballasts were recycled during the year. A total of 321 pounds of compact fluorescent and U-tube lamps were also collected from District facilities and recycled.

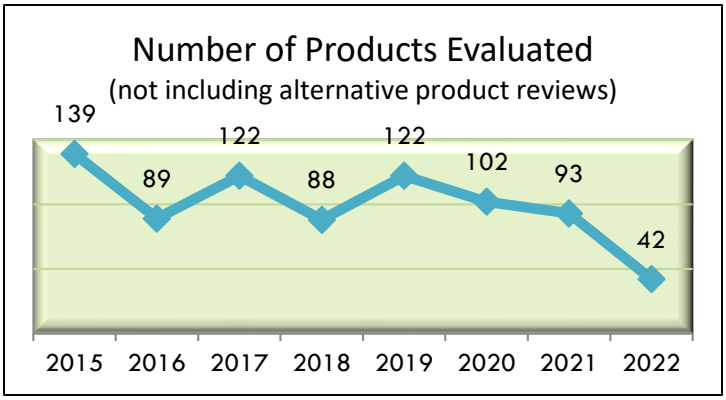
The District collected 21 drums (approximately 1500 lbs.) of waste spill pads, booms and other non-PCB petroleum contaminated debris generated from oil spill response and maintenance efforts in 2022. These were shipped to a permitted facility for incineration. Approximately 490.65 tons of petroleum contaminated soil were also excavated as part of District oil spill cleanups and consolidated at the Operations Center during 2022. All of the soil was disposed of at a permitted facility.

Environmental Health & Industrial Hygiene

Supporting a Healthy Workplace

Environmental Affairs collaborated with several different operational areas in 2022 to address environmental health and industrial hygiene issues. This included issues related to spill response,

chemical product management and occupational health exposures. Some examples of work in this area included:



- Evaluating chemical products to be used in day-to-day operations as well as capital projects, including water reservoir recoating project, roof replacement at the Electric Building, and elevator maintenance at the Electric Building.
- Performing hazardous materials surveys including bulk asbestos sampling prior to renovation or demolition work.
- Performing chemical product evaluations to identify hazardous conditions that may be associated with using various products, investigating the use of less-hazardous alternative products when necessary and helping to structure projects to minimize chemical exposures to District employees. This program also helps to eliminate hazardous waste generation and long-term liability issues that may be associated with using a particular product. Towards this end, Safety Data Sheets and supporting documents such as EPA registration labels (for pesticides) and technical data sheets were evaluated for 42 different chemical products in 2022.

Electric and Magnetic Fields

Responding to Customer Concerns

Electromagnetic fields (EMF) are generated by the flow of electric current, including the flow of electricity through equipment operated by the District. The District provides customers who are concerned about the possible health effects of EMF with information and conducts EMF field demonstrations and measurements upon request. In 2022, EA responded to 9 customer requests for EMF information and provided 7 magnetic field demonstrations.

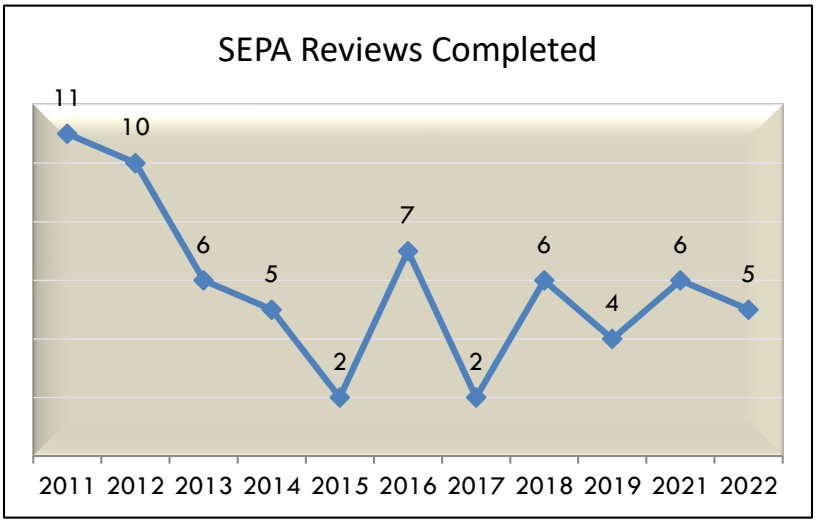
Land Use & Permit Assistance

Critical Areas, Wildlife, Stormwater and SEPA Support

Environmental Affairs continued to work with District project leaders to help them successfully integrate compliance with critical area, floodplain, wildlife, cultural resource and stormwater regulations. This support effort included outreach across the District, training sessions for District staff and individual project permit analysis to help determine when projects trigger different construction site stormwater requirements, as well as help in selecting various best management practices to employ to prevent erosion and sediment discharge.

In 2022, the District managed the Migratory Bird Special Purpose Utility Permit administered by the U.S. Fish and Wildlife Service. The permit allows specified District staff to transport and/or dispose of migratory birds that have been injured or killed by District equipment. In 2022, District or State wildlife personnel discovered 47 bird deaths associated with District powerlines and equipment. These incidents were reported to the U.S. Fish and Wildlife Service. Distribution and Engineering Services staff inspected each bird incident site and assessed each location for avian protection modifications. Several

locations were identified for additional insulation or flight diverters and these projects should help prevent future injuries to birds that may perch on or collide with District equipment.
The District completed five environmental evaluations under the State Environmental Policy Act (SEPA) in 2022. Completing SEPA procedures is a multidisciplinary effort between project leaders, Environmental Affairs, Natural Resources and oftentimes consultants. The SEPA process serves to identify current conditions and possible project-related impacts, outline procedures or designs to avoid or reduce adverse impacts and evaluate the overall significance of the impacts. SEPA also provides a succinct platform for public notice and comment on environmental issues related to a project. Greenhouse gas emissions that may be associated with a project are also included in the evaluation process. The District consistently strives to incorporate impact reduction into project proposals prior to a final threshold determination and outline these measures in the appropriate public SEPA documents.



Other Project Support

Environmental Sustainability and Compliance Assistance

Environmental Affairs participates in the planning, design and execution of a variety of District projects to promote environmentally responsible utility operations throughout the lifecycle of facilities and programs. In 2022 these projects included substation rebuilds, facility operations and maintenance projects, hazardous materials management planning, greenhouse gas emissions, property cleanups, the development of future District facilities, decommissioning of an energy storage system, participation in the development of Environmental Key Performance Indicators and others.

Summary

In collaboration with other District departments, Environmental Affairs' efforts have successfully met District goals to reduce pollution, ensure worker health and safety, comply with applicable regulations, reduce financial liability and promote sustainable utility operations. Continuing to address these issues collaboratively within the District and with regulatory agencies through planning, training and design will continue to produce the greatest gains for pollution prevention and environmental risk management at the least possible cost.