PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

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Subject: T3-2022-16220 Bull Run Filtration Projects

Supplemental Information about Chemical Safety

The Portland Water Bureau's mission is to protect public health by providing clean safe drinking water. To that end, the water filtration facility is designed with safety as a top priority.

The filtration facility will have multiple engineered safety features including physical separation of chemicals based on compatibility, monitoring and alarm systems, and secondary containment for chemical transfer and storage areas. In addition, the facility will be staffed 24/7 by trained and certified treatment operators who will perform routine safety checks and oversee chemical deliveries.

Testimony in Exhibit E.9 referenced accidents involving chemicals at facilities. While there are not details in the record that explain the specifics of these accidents, the table below provides high-level information about engineered and operational standards to safely store, handle, and manage use of chemicals at the filtration facility and prevent the types of referenced accidents.

Referenced News Articles	Facility Safety Features
Mississippi July 2009: "MS POWER DANIEL PLANT Sodium Hypochlorite Spill" Pennsylvania August 2017: "DEP investigating chemical spill that reached nearby stream" New Hampshire 2021: "4,000 gallons of powerful bleach spills inside wastewater treatment building"	• Articles reference 15% sodium hypochlorite use at different types of facilities (a power plant, wastewater plant, and pump station). • Salt will be delivered to the filtration facility and used to create a 0.8% solution of sodium hypochlorite. • Certified operators will perform regular safety checks and oversee the treatment process at the facility, including transfer and storage of treatment chemicals. • The facility is also designed with secondary containment systems for chemical transfer and storage so that in the unlikely event of a spill the chemical can be captured and disposed of by certified professionals.

	• In addition to physical safety features, the chemical systems at the facility have monitoring systems and notification alarms.
Massachusetts July 2020: "Two Wrentham water treatment plant workers injured during chemical leak" California November 2021: "Builder faces lawsuit after Fresno workers injured by ozone leak at water treatment plant"	• Articles describe workers injured by faulty equipment—note the filtration facility will not use potassium hydroxide as in Wrentham. • The water filtration facility will have a quality assurance process to test new equipment when it's installed and regular preventative maintenance to make sure equipment continues to operate as intended. • Facility operators will follow safety precautions and wear appropriate personal protective equipment for routine duties. • Chemical systems at the filtration facility will have monitoring systems and safety alarms to notify operators of tank levels or possible leaks so appropriate steps can be taken.
Oregon August 2022: "Almost 2,000-gallons diesel spills onto farm, in Dead, Willamette rivers"	• Article describes a leak from a farm's above ground fuel storage. • Diesel fuel at the water filtration facility will be stored in double-walled storage tanks with electronic leak detection systems. In addition, the tanks are located on concrete pads, not near any waterways, and subject to routine visual inspections. • In addition, the facility will be staffed 24/7 by operators who routinely perform safety checks and maintenance of equipment and systems.
Alabama March 2019: "Chlorine Mishap Sends 50 Water Treatment Workers To Hospital"	• Article describes accidental mixing of sodium hypochlorite and ferric sulfate—the water filtration facility will not use ferric sulfate. • In addition, the water filtration facility is designed with physical separation for chemicals during transfer and storage based on their compatibility to avoid accidental mixing. • Chemical deliveries will also be overseen by certified operators.

Cornwall July 1988: "Camelford water pollution incident"	• Article describes Cornwall's water supply being impacted by too much of a specific chemical. • The filtration facility will have engineered controls and monitoring systems, in addition to oversight by certified operators, to make sure chemicals are added in appropriate amounts. • The Water Bureau monitors and routinely tests drinking water to make sure it meets all federal and state standards and remains safe to drink.