Phosphorus reduction opportunities walk-through checklist

Review the suggestions on this checklist with your business users to identify strategies to reduce effluent phosphorus from their operations.

Wastewater treatment facility (WWTF) operators may want to conduct walk-through site visits of their businesses and water treatment plant to identify opportunities to reduce phosphorus. Phosphorus can be reduced at the source by eliminating or minimizing it through substitution or other means.

All Business Users: Commercial, Industrial and Institutional Operations

Cleanup Methods

Use dry cleanup methods as much as possible before using wet cleanup methods.

__ Ask about staff training or written procedures for facility and floor cleanup.
__ Interview workers about common practices.
__ Observe standard cleanup procedures.

Cleaning and Sanitizing

Use low- or non-phosphorus products for cleaning and sanitizing.

__ Check Material Safety Data Sheets (MSDSs) or product labels for phosphorus content.
__ Have the company check with vendors to see if alternative cleaners are available.
__ Ask about purchasing criteria for cleaning products with low- or non-phosphorus content.
__ Ask if the facility or vendor provides staff training on proper use and mixing of cleaning chemicals.
__ Check if an automatic clean-in-place (CIP) system is appropriate.

Material Handling

Keep materials off the floor and away from drains.

__ Ask about staff training for waste materials management.
__ Check for catch basins or collection trays to collect waste materials that may reach the floor.
__ Ask if collected materials are returned to the process.

Inefficient Equipment

Update old equipment to more-efficient equipment for production.

__ Ask about upcoming opportunities to purchase more-efficient equipment.
__ Check if existing equipment can be retrofit to increase efficiency.

Industrial Operations

Spills and Leaks

Establish a preventative maintenance program to prevent spills and leaks and to maintain the plant at maximum efficiency.

__ Ask if the facility has a preventive maintenance program in place.
__ If not, ask how often spills, leaks, and operational efficiency are evaluated.

Process Controls

Install mechanical and automatic process controls to make processes more efficient and reduce waste.

__ See if the facility has process controls in place such as solenoid valves for water shut off or tank level indicators to prevent overflows.
__ Ensure that all process controls are properly set, calibrated, and maintained.

Process Chemicals

Maximize the use of process chemicals.

__ Determine if the facility uses proper operating concentrations of all process chemicals.
__ Ask if the facility or vendor provides staff

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MnTAP • 200 Oak Street SE, Suite 350 • Minneapolis, Minnesota 55455-2008
612.624.1300 • 800.247.0015 (Minnesota only) • FAX 612.624.3370 • www.mntap.umn.edu

training on proper use and mixing of process chemicals.

__ Ask if process chemicals are reused.

__ Look for opportunities to reuse solutions and rinses from phosphatizing lines and CIP systems.

Start-up and Shut-down

Use designated equipment for different products to minimize waste due to start-up and shut-down.

__ Inquire about opportunities to dedicate a product to one process line (i.e., potato salad on one line and coleslaw on another).

__ Check for standard operating procedures for start-up and shut-down of equipment.

Drinking Water Treatment Plant

Phosphorus

Optimize phosphorus addition at the water treatment plant.

__ Work with water treatment plant staff to review additions of phosphorus used to prevent corrosion in water distribution lines.