Discharge Limits for Wastewater

Biochemical Oxygen Demand (BOD)

Nancy Nye

Pretreatment Program Manager

August 2019

Managing Wastewater System Capacity

- Essential for growth and economic development
- Important for meeting water quality standards
- Protects wastewater system

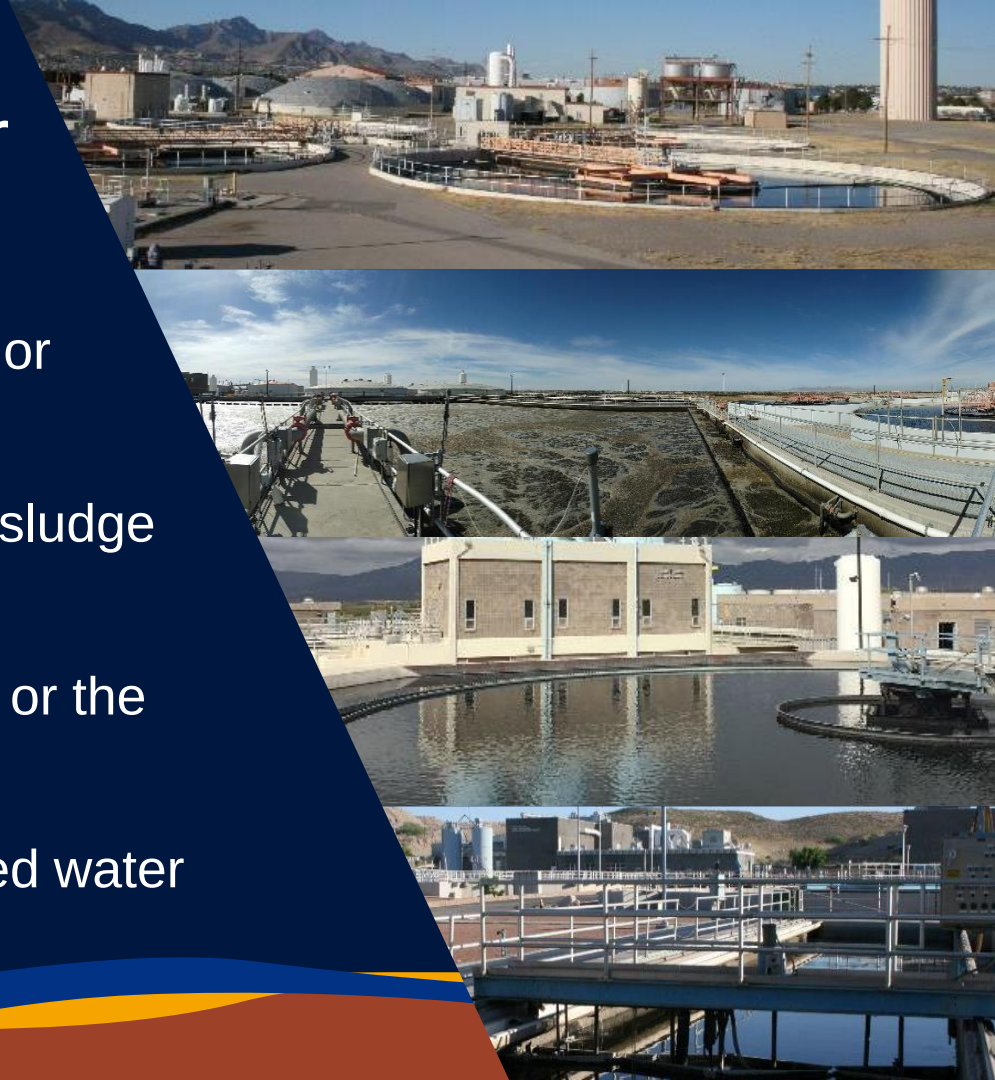
Managing Wastewater System Capacity

- Expand wastewater systems
- Revise standards for incoming industrial streams

El Paso Water is in the process of doing both.

EPWater Wastewater Treatment Facilities

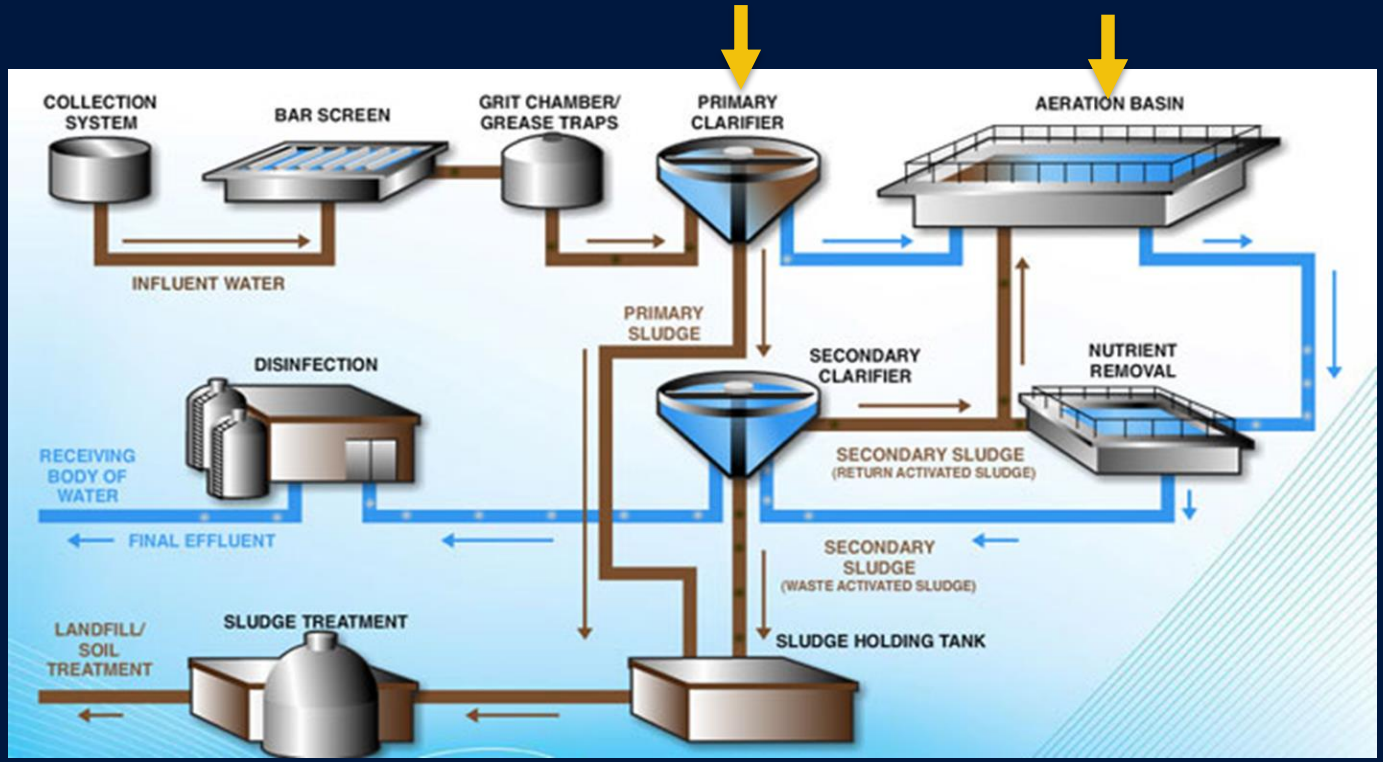
- Operate under TPDES permits or TCEQ Permit (Hervey)
- BOD treated through activated sludge and aeration systems
- Discharge into the Rio Grande, or the Hueco Bolson (Hervey)
- Some effluent used as reclaimed water



Definition of Biochemical Oxygen Demand (BOD)

The amount of dissolved oxygen needed (i.e. demanded) by aerobic biological organisms to break down organic material present in a given water sample at certain temperature over a specific time period.

Wastewater Treatment



EPWater must act to ensure compliance

- Potential violation
- Enforcement
- New requirements
- Permit revoked or denied

Inadequately treated wastewater poses a biological contaminants risk– A health hazard if discharged into the environment.

Common BOD Concentrations	
Weak	100 mg/L
Medium	200 mg/L
Strong	300 mg/L

Wastewater Treatment Facilities
Current Capacities

Plant	BOD Average Loading (lbs/day)	TCEQ 317 Design Standard (lbs/day)	BOD Design Standard (percent)
John T. Hickerson WRF	19,400	21,000	92%
Haskell R. Street WWTP	29,400	29,700	99%
Roberto R. Bustamante WWTP	52,800	38,700	136%
Fred Hervey WRP	12,000	21,400	56%

Most municipal wastewater treatment facilities are not designed to treat wastewater from industrial sources.

The Pretreatment Program requires discharges of nondomestic wastewater to comply with standards to ensure the goals of the Clean Water Act are attained.

Pretreatment Program

- Prevent interference
- Prevent pass through
- Improve opportunities to recycle and reclaim
- Protect human health & safety and the environment

Pretreatment Program

Pretreatment Program

- Continuous evaluation

- Revision to local limits

Treatment or process changes will be needed.

Industrial sectors most impacted by BOD:

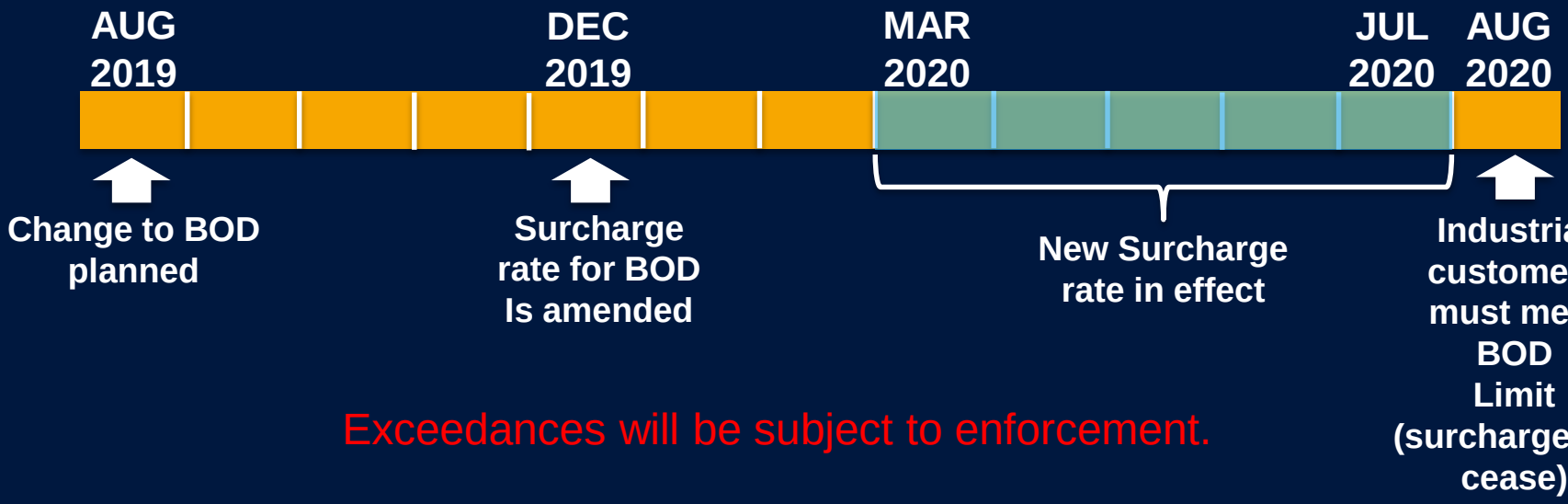
- Dairy products processing
- Other foods processing
- Industrial Laundry facilities
- Waste dewatering processes

Actions needed by Industrial Customers

- Identify source(s) of high BOD
- Evaluate BMPs to reduce BOD
- Identify the type of treatment equipment required
- Plan for treatment to reduce BOD below 300 mg/L and implement before August 2020 to be compliant

RESOURCES: Companies are encouraged to seek guidance from trade associations, The Water Environment Federation, engineering consultants, and The TCEQ to learn more and identify facility specific solutions.

Timeline



Exceedances will be subject to enforcement.

A national challenge
Expansions and new limits to manage capacity

Cities that have recently set BOD and/or TSS limits

- City of Temple, TX
- City of Melbourne, Florida
- City of Flagstaff, AZ

Mission Linen & Uniform Services has been treating their wastewater for over 20 years.

“We’d rather put money into our infrastructure than paying surcharges.”- Brandon Wellette, Production Manager.

Mark Saposnik, Environmental Compliance Engineer, said the system benefits their bottom line, but “It is also the right thing to do for the environment.”

The cooperation of our industrial customers will help us to meet future demand and continue to protect the environment and our systems.

Nancy Nye
Pretreatment Program Manager
(915)594-5731
nenye@epwater.org