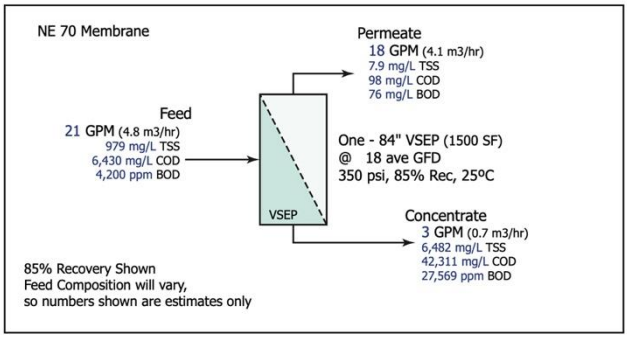
Case Study – Meat Processing Facilities

Now that food inflation has taken hold, people hope for stabilization and slowing of inflation. A new challenge has arisen that will have to affect the cost of meat and poultry. The EPA is initiating a new rule that regulates slaughterhouse and meat processing facilities. This new rule will take effect in August 2025. This is not much time for these companies to become wastewater treatment experts and to select the best technology

There are some of these facilities that discharge to surface waters and these 171 facilities in the US are already regulated by the EPA with discharge permit requirements. There are about 5000 facilities in total and most of them discharge wastewater to the municipal sewer where the effluent is treated along with the rest of the sewage. But as has become common, these municipal treatment plants are at capacity and have no plans for upgrades or expansion. So the burden shift upstream and industries are now required to pretreat effluent before sewering it.

The new rule is a result of lawsuits filed by 13 environmental organizations. The new rule will apply limits on Nitrogen, Phosphorous, Oil & Grease, Suspended Solids, and Biological Oxygen Demand (BOD). The EPA estimates the total monetized benefits of tightening the wastewater standards would be $100M. It is not clear what the cost to industry will be to implement treatment systems to comply with this rule. The EPA estimates that between 16 and 53 facilities will close resulting in at least 17,000 job losses.

VSEP Pilot Test at a Belgian Slaughterhouse

New Logic has been approached by some of these facilities in the past, but this has mostly been to see if the economics would improve by installing our system instead of paying surcharges to discharge high BOD water. VSEP has been pilot tested several times. By using Nanofiltration (NF) the BOD can be reduced very significantly so that no surcharges would apply. A VSEP system could recover about 85% of the volume as NF filtrate that can be sewered. The remaining reject would be concentrated in organics and could make a nice feedstock to a biogas facility. Or, the reject could be evaporated to make a landfillable material.