ADVANTIV™ 1020
Oil & Gas Refining

METALS REMOVAL FOR SPENT CAUSTIC RECOVERY

How membrane filtration eliminates a disposal liability and recovers caustic for reuse in the refinery

THE SITUATION

Refineries routinely generate spent caustic, an alkaline solution used to scrub sulfur compounds from hydrocarbon streams. The resulting stream is heavily contaminated with sulfides and metal compounds, leading to careful management of the hazardous waste. Shipping spent caustic to 3rd-party pathways with a practical use for the stream is limited and increasingly contracting, requiring producers to use high-cost hazardous waste disposal.

THE PROBLEM

- **Rising Disposal Costs** – 3rd-party disposal carries significant cost with no recovery of caustic value in the stream.
- **Fresh Caustic Purchase** - Fresh caustic is needed for refinery operations.

THE ADVANTIV™ 1020 SYSTEM

Fully integrated membrane filtration system designed for installation in less than 1 year into existing refinery infrastructure with minimal disruption. The system removes metal catalyst carryover, separating caustic suitable for reuse and concentrating the contaminant-bearing fraction to minimize the volume requiring disposal.

The recovered caustic is suitable for reuse in refinery applications not sensitive to residual sulfide, offsetting fresh caustic purchase.

This technology is not intended to remove sulfides or sulfates.

RESULTS DELIVERED

80–90% Disposal Reduction

80–90% Offset Caustic Purchase

20–25% Project IRR

OUR TECHNOLOGY – Powered by ViaForge™ Resilience

The spent cobalt caustic stream contains two things: highly alkaline caustic solution that retains significant value, and metal contaminants and sulfide compounds that create the disposal liability. ViaForge™ membrane technology maintains performance in the highly alkaline, sulfide-rich conditions of spent refinery caustic – a stream that degrades conventional polymer membranes rapidly.

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