

CASE STUDY

# The Right Flush: Side-by-Side System Comparison

Fluitec's Boost VR+ reduces maintenance costs by 66% and labor hours by 92%

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# The Right Flush: Side-by-Side System Comparison



**COST SAVINGS:** **\$100K**     **LABOR HOUR REDUCTION:** **92%**

**CLIENT:** Power Generation

**COUNTRY:** USA

**APPLICATION:** Water Pumps

**DELIVERABLES:** Save \$100K,  
Reduce Labor Hours by 92% and  
reduced chemical waste

**SOLUTION:** Fluitec Boost VR+

## PROBLEM

A coal-fired power plant had two 3,000-gals boiler feed water pumps with very old and highly degraded turbine oil. They needed to clean the systems and change the oil.

## SOLUTION

The power plant elected to try two different services to clean up their systems. One being a traditional flushing service with chemical cleaning and confined space cleaning, the other being **Fluitec's Boost VR+™**

## RESULTS

- Both methods cleaned the system
- Boost VR+ was 66% less expensive saving over \$100K
- Boost VR+ worked during operation so no additional downtime for cleaning during outage
- Boost VR+ used 92% less labor hour resources than the traditional flush



## DEEPER DIVE

### THE FLUSHING OF BOILER FEED WATER PUMP 1

The services were outsourced to a professional flushing company which performed the services during a planned outage. The following procedures were followed:

- At the beginning of the outage, the lube system was drained and disposed
- Restrictive flow areas and critical components were isolated from the flush with the installation of specialized jumper hoses
- Confined Space Tank Cleaning was done on the reservoir
- A water-solution with a citrus cleaner was added to the system
- An external pump and bag filters were used to generate very high flow rates
- At the conclusion of the chemical flush, the water was removed from the system from draining and evaporation
- The oil system was charged with new oil.
- A high velocity, high temperature oil flush was performed to remove any other contaminants from the system

<b>Total flush time:</b>	2.5 weeks
<b>Estimated support hours:</b>	100 hours
<b>Total flush cost:</b>	\$150,000

**Flush effectiveness:** All varnish and contaminants were removed from the system. The flush was considered a success.

### THE FLUSHING OF BOILER FEED WATER PUMP 2

For the second system, the plant performed a Solubility Enhancement System Cleaning using Boost VR+ by following these procedures:

- 5% Boost VR+ was added was added to the system 3 months prior to the outage
- A Vita III ESP™ filtration system was set up to continually clean the fluid and restore the fluid's ability to dissolve contaminants
- During the outage, the used oil was drained from the reservoir while still warm, as well as all low points in the system
- The system was recharged with new oil

<b>Total flush time:</b>	3 months
<b>Estimated support hours:</b>	8
<b>Total flush cost:</b>	\$50,000

**Flush effectiveness:** All varnish and deposits were removed from the system. The flush was considered a success.

The plant was equally satisfied with the outcome of both flushes. Boost VR+ however was one third of the price and required significantly less internal resources to support. Other concerns about residual cleaning agent left over in the turbine oil were also eliminated.



*Flushing rig set up to clean the system*



*The filters were significantly cleaned along with the other system components during the flush*