



INDUSTRIAL
FLOW
SOLUTIONS™

CASE STUDY
DERAGGER

Half Moon Bay, CA, USA

Annual Cost Savings: **\$14,820**

From Frequent Failures to Financial Savings: Solving Ragging Issues in Half Moon Bay's Pump Station with DERAGGER®



Problem

The pump station in Half Moon Bay, CA, which serves a population of 13,000 residents, operates with a 25 HP, 460V, 3-phase pump. This facility suffers from **frequent ragging**, a problem caused by the disposal of non-woven and fibrous materials. As a result, pumps clog approximately twice a week, requiring 45 minutes to an hour for each cleaning session. This issue not only diverts staff time away from other important tasks but also poses **safety risks** to employees due to exposure to untreated wastewater and potential sharps.

The persistent ragging problem leads to inefficiencies, as pumps running with rags on the impeller experience reduced flow rates, increased run times, and higher power consumption. This deviation from optimal performance affects the station's overall efficiency and leads to **higher energy bills**. While installing chopper or grinder pumps could mitigate the ragging problem, these solutions bring their own set of challenges. They can **increase maintenance costs** and potentially cause downstream issues at the treatment facility, where small particles from grinding might complicate the screening process.



Solution

To address the persistent ragging problem, the Sewer Authority installed the DERAGGER® anti-ragging device. This system uses **Real Time Pump Protection™** technology to detect and manage rag buildup before it causes significant clogs. By monitoring the power signature of the pump's motor and adjusting the pump's behavior, the DERAGGER® allows rags to pass through the impeller and be removed by downstream screens, preventing full obstructions.

The installation of the DERAGGER® led to a complete **reduction in ragging**, resulting in substantial savings. The authority calculated monthly savings of \$735 in labor costs, as staff no longer needed to perform constant pump cleanings. **Energy usage decreased by 19%**, translating to a \$500 monthly reduction in PG&E bills. Overall, these improvements projected an **annual cost saving of \$14,820** for the sewer authority.

The new system not only enhanced operational efficiency but it also **improved staff safety** and extended the lifespan of pump components by reducing wear and tear. The technology's ability to detect early signs of equipment issues allows for timely maintenance, further contributing to the authority's cost savings.



DERAGGER®



DERAGGERLite™
Anti-ragging device
Prevents pump clogs



DERAGGER+™
Real Time Pump Protection™



PowerMonitor™
Power analyzer &
data logger

MONITOR			
SCADA Ready		●	●
Data Logging <i>(20 years at 5s intervals)</i>		●	●
Derived Flow		●	
PROTECT			
Anti-ragging	●	●	
Motor Saver	●	●	●
Dry Run Protection		●	●
CONTROL			
0 - 1000+ HP	●	●	●
VFD Compatible	●	●	●
Wet Well Clean		●	
Odor Control		●	
PRO Compatible		●	●

The DERAGGER® is a leading product in the municipal industry, designed to eliminate ragging and clogging issues in pump stations. It offers real-time detection of early rags and clogs, providing intelligent data monitoring and analytics tailored to specific applications.

Key features include:

- Real-time monitoring of dynamic torque waveform to prevent pump clogging.
- High-resolution power analyzer for remote insight into pump station operations.
- Cost savings in time and maintenance through streamlined applications.
- Modular approach ensures compatibility without redesigning control panels.



Controls up to 16 pumps
10" - 32" IP65 anti-scratch screen

DERAGGERPro™
Paired with DERAGGER+™
or PowerMonitor™, simplifies pump
station controlling and spreads
intelligence across three devices
for system redundancy.



ADVANCED KEYPAD
TCP/Ethernet Connectivity, built-in LTE
available, LORA radio, start/stop function.



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