

RAPID RESPONSE TO BIOENERGY PLANT COMPRESSOR FAILURE



SERVICE MATTERS

THE PROBLEM

A Bioenergy plant faced a sudden issue with its Lobe compressor, a critical asset used for process aeration.

These compressors recycle foul air from process tanks, but due to an unexpected process fault, sludge from the aeration tanks infiltrated the blowers through either damaged shaft seals, overpressure or a combination of both.

The infiltration resulted in severe contamination of the oil in both the drive end (DE) and non-drive end (NDE) gear cases. The sludge compromised the oil's lubricating properties, putting the compressor at significant risk of further damage.

THE IMPACT

- Loss of 2 out of 4 operational aeration blowers.
- Only one blower left functioning, increasing the risk of system failure.
- Urgent need to restore equipment redundancy and ensure reliable aeration.

THE SOLUTION

Within 24 hours of the emergency call, AVT Reliability engineer David McKeen was on-site for an initial inspection and repair.

1. Inspection & Immediate Recommendation
We quickly identified the need to flush out the contaminated oil and remove any residual process sludge to prevent further damage.
2. Rapid Oil Flush & Change
We performed a comprehensive oil flush and replacement on the affected gear cases, restoring the lubrication quality and minimising the risk of component wear.
3. Lab Analysis
We took samples of the contaminated oil for further analysis to assess any underlying damage to the compressor's internal components.

THE OUTCOME

Less than 24 hours after the issue was raised, we brought one of the two offline blowers back into service.

This rapid turnaround allowed the plant to re-establish a 'duty' and 'standby' setup, providing a crucial backup and minimising the risk of further operational disruption.

By addressing the sludge contamination quickly, we minimised the potential for severe internal damage to the compressor. Prolonged exposure to contaminated oil could have resulted in excessive wear of gears, bearings, and seals, leading to costly repairs or even complete asset failure.

After further discussions with the site team, we're now implementing regular oil sampling for this asset and trending the data within our Machine Sentry platform.

By integrating these results directly into Machine Sentry, we can easily monitor the full performance trend of the asset, enabling us to make data-driven decisions and optimise reliability.



SERVICE

Here at AVT Reliability, we understand that unexpected process failures can have a significant impact on your operations.

Our team is equipped to provide rapid lubrication services, including emergency oil changes, flushing, and contamination analysis, ensuring your assets remain in optimal condition.



CONTACT

If your plant is facing similar issues, reach out to AVT Reliability for expert support in condition monitoring and lubrication management.

We're here to keep your operations running smoothly.

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