

# The future of rail: maintaining critical assets and making the energy transition

August 1, 2022



Transport produced 27% of the UK's total emissions in 2019, of which 1% (1.8 MtCO<sub>2</sub>e)(1) came from rail. Fuelled by the government's transport decarbonisation plan, the industry is committed to reaching Net-Zero by 2050.

Due to the lower GHG emission freight option, logistics operators are shifting modes to rail. However, this modal shift makes it even more crucial for rail operators to ensure they maintain their critical assets compliantly to reduce the risk to the environment, their business and reputation.

Shirley Miles, Head of Environmental Protection at [Adler and Allan](#), writes about how a trusted environmental protection provider can help rail operators create strong primary (tank), secondary (bund), and tertiary (separator) defences against pollution incidents – and their penalties.

“Regular asset maintenance is essential to keeping pollution prevention equipment working at optimum efficiency. With the right partner, forward-looking infrastructure management can keep the rail industry protected and productive, for today and tomorrow.

## **Evaluating industry awareness**

In May and June 2022, Adler and Allan, along with Logistics UK, ran a series of polls on social media and at the Multimodal exhibition.

The survey explored asset maintenance regimes and knowledge of BS EN 858-2:2003 Separator systems for light liquids, the current standard by which separators/interceptors should be operated and maintained.

- 74% knew the condition of their critical assets, such as fuel tanks, bunds, and separators, and had regular maintenance schedules for each.
- 56% knew which maintenance regime is required by BS EN 858-2:2003 for separators.
- Just 40% followed the requirement to have automatic warning devices fitted to their separators.
- Similarly, only 40% adhered to the guideline to perform a five-yearly integrity inspection on their separators.

## **Practical plans for primary, secondary, and tertiary containment**

A pollution incident caused by a poorly maintained asset or inadequate containment is a strict liability offence. Failure to adhere to standards is a key factor in considering enforcement action, with potential fines of up to 100% of an organisation's pre-tax profits.

A robust asset maintenance programme provides information for service log scrutiny during routine inspections or following an incident. It is also an essential part of pollution prevention.

### **Primary containment (tanks)**

Primary containment is the most important means of avoiding major pollution events. It includes equipment in direct contact with stored substances, such as tanks, vessels, pipework, valves, and pumps, as well as equipment that prevents the loss of contaminants under abnormal conditions.

In addition to weekly visual checks, you should use a qualified technician to perform a detailed annual inspection and service of your storage facilities. Rail operators should also commit to preventative measures, including:

- Tank audits and inspections to test for leaks and structural concerns
- NDT testing against API standards to evaluate asset quality without destroying serviceability
- Tank lining to protect against deterioration and resist water and chemicals
- Tank cleaning to remove harmful build-up and contamination

### **Secondary containment (bunds)**

Regular inspection and cleaning are key to an effective bund maintenance programme, ensuring your secondary containment system is structurally sound and free of contaminants. This should include:

- Bund audits to assess performance and identify defects before they compromise integrity
- Bund cleaning to remove leaked tank contents, even in hard-to-access spaces
- Bund lining to protect against deterioration, degradation, and structural weakness.

### **Tertiary containment (separators)**

Separators form an integral part of a tertiary containment strategy as they are designed to trap harmful light liquids before they enter the surrounding area. A preventative maintenance plan should include:

- A separator alarm system that monitors oil, silt, and liquid levels, ensuring assets are working correctly and preventing pollutants
- Six-monthly inspections by a knowledgeable environmental expert to check levels and functionality of key components
- Five-yearly integrity audits that check for fractures, displacements, and groundwater ingress

Realising rail's greener future depends on keeping critical assets in line with regulations. Whatever path you take to decarbonisation, an experienced environmental consultant can ensure your Net-Zero transformation remains cost-effective and compliant."

[Click here to read the white paper.](#)

*Written by Shirley Miles, Head of Environmental Protection at Adler and Allan*

(1)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/984685/transport-and-environment-statistics-2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/984685/transport-and-environment-statistics-2021.pdf)



*Photo credit: Adler and Allan*