



Ionics Agar Environmental Ltd.

LEAKWISE® OIL ON WATER MONITORING SYSTEMS

APPLICATION NOTE #2

OIL STORAGE TANK WITH A FLOATING ROOF

Floating Roof Drainage Operation

Stormwater accumulated on a concave floating roof of an oil storage tank may affect its floatation. It is therefore necessary to drain the water immediately. This is usually done through a flexible pipe which is running from the floating roof down the tank with an outlet above the ground near the bottom of the tank.

Problems in Roof Drainage Operation

The following problems may occur in the operation of a floating roof drainage system:

- A. Small or large volumes of the product from the tank can penetrate the flexible pipe through pinholes or cracks that may appear in it. The product will then drain through the water drainage system unnoticed
- B. Product from the tank may occasionally run over the floating roof through the roof's seal and exit through the water drainage pipe unnoticed.
- C. Sometimes, the flexible pipe is bent or clogged in such a way that it doesn't allow water from the roof to pass through it. In this case, water remains on the floating roof and this may disturb its floatation capability.

ID-223 Oil Sheen Detector Applications

1. Detection of oil leaks/spills

An ID-223 oil sheen detector should be installed in a settling tank (or in a sump or a separator) which should be mounted on the external water drainage pipeline. This settling tank will settle the liquid flowing in the pipeline from the roof drainage pipe outlet, to allow detection by the ID-223 floating sensor. Normal indication of the PS-220 processor should be "Water" on rainy days, or "Air" on dry days. Alarm will be set off if the ID-223 oil sheen detector detects "Oil" or "Oil-on-water" indicating that oil is seeping through the roof drainage pipe.



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2. Detection of clogs in the roof water drainage system

If "Air" instead of "Water" is indicated after a rainy day, it means that the flexible roof drainage pipe is bent or clogged and no water is running through it.

3. Savings on water treatment costs

The ID-223 oil sheen detector can be used to control valves, pumps and sump gates. By utilizing its control capabilities, the users can discharge the stormwater from the tank's roof directly to the sea, river or public drainage system. Only the oily water will be diverted to treatment. This will reduce the load from the local treatment system and bring substantial cost savings.