

Subject Fibre Optic Lamp for use in zone 0

Introduction:

Up to now, no certified artificial lightsource existed for the use in Zone 0 environments. The only existing lightsource in these closed environments was daylight coming in through the opened manholes.

During a visit of Mr. Martin Cornelése of Cooper Crouse-Hinds B.V. we were informed on the existence of a Fibre Optic Lamp which is suitable for the use in Zone 0 hazardous areas.

Inspection of Tank T2503 in late 2004 provided an opportunity to test this FOC 25, Fibre Optic Lamp.

The inspected object was an underground waste water storage pit (dim. 10 x 6 x 3 mtrs) which is considered as a zone 0 environment during operation.

There are several levels for conducting the waterflows.

Tank T2503 was cleaned, inspected and modified in November 2004.

Testresults:

At the start of the cleaning activities the Fibre Optic Cable was hung from the top manhole of the pit. This however was not the best solution because of the poor illuminance and moreover it obstructed the employees in their activities.

Using a tripod on which the head of the lampunit was placed created a better result.

After cleaning, the lampunit proved itself at inspection of the various levels.

The lampunit (Fibre Optic Cable 25) was taken from the tripod and made it possible to inspect on the spot thus enabling a swift and secure cleaning process.

The contractors (Watco and Van Hattem) were positive in their reactions on the use of the lamp unit in general and it provided them a better feeling of security during the activities in the tank.

Conclusion:

The lampunit provides a higher level of security when entering and cleaning of enclosed spaces in which no artificial lightsource could be used before.

The lampunit can be placed close to the object (e.g. tank) thus enabling the use of almost the full length of the fibre optic cable (25 meters)

The lampunit can be used for similar projects in future.