

Response of the Technical Committee

To the Question on Lifetime of UV lamps

Date: 10.09.2018

The lifetime of UV lamps depends on the technology used. The UV technologies applied in ballast water treatment systems are low pressure (LP) or medium pressure (MP) mercury arc lamps, or Light Emitting Diodes (LED). The LP lamps used would usually be mercury amalgam lamps as that enables the lamp to be run at higher power. UV LED lamps are not employed extensively in ballast water applications because of their low efficiency and power at this time.

For LP UV lamps and MP UV lamps a life time between 2000 hours and 15000 hours can be considered as benchmarks in ideal conditions.

Factors that may have an impact on the lamp life of UV lamps in shipboard applications include:

- Number of operating cycles (ON/OFF sequences);
- Environmental conditions at the installation site, including, but not limited to,
 - ambient temperature and humidity
- Ship motion
 - shock and vibration
 - quality of the ambient air;
- How the OMSM of the manufacturer is followed, including, but not limited to:
 - o start-up and shut down procedures;
 - o BWMS maintenance schedules and procedures.

Given the above multiple factors and the different BWMS operation profiles according to vessel type and different routes, there is no general rule to estimate the lamp life.

However, users should consult their BWMS provider to get specific information for the corresponding BWMS and, more importantly, the OMSM and the control and monitoring of the BWMS should indicate to the user how to detect the need for changing a lamp.