

CRUISE LINE INNOVATIONS HELP REDUCE AIR EMISSIONS

THE CRUISE INDUSTRY LEADS THE WAY in developing exhaust gas cleaning systems (EGCS), a highly effective technology authorized by IMO, EU, US EPA, and others, and each system approved by Flag state to reduce air pollution from ships. EGCS is just one example of innovative technology fitted by the cruise industry to ensure responsible environmental practices.

EGCS effectively treat engine exhaust to significantly reduce sulfur and particulate matter from air emissions. As an equivalent technology under international regulations, EGCS must achieve air emission reductions that are at least as good as burning highly refined distillate fuels.

Although EGCS designs vary, they commonly rely on the following:

Water: Either seawater or fresh water are used to create a fine water mist

Exhaust Cleaning Unit: The fine water is applied to the engine exhaust in an exhaust cleaning unit causing a chemical and mechanical reaction which removes pollutants

Scrubbed Exhaust: The scrubbed exhaust is released to the atmosphere, at times producing a white plume of water vapor

Washwater Treatment: Water used to scrub engine exhaust is drained. For systems operated in open loop mode, the washwater pH is adjusted as needed to meet regulatory standards before discharge. For systems operated in closed loop mode, chemicals can be added for the water to be recirculated for additional exhaust cleaning, or the treated washwater is held for later discharge.

Solid residue: Solids removed during washwater treatment are stored onboard for shoreside disposal

IT'S ALL IN THE NUMBERS!

60% of global cruise capacity utilizes EGCS. EGCS help reduce sulfur oxide levels by as much as 98%, a typical total particulate matter reduction of 50% or more, including elemental and organic carbon and black carbon, and nitrogen oxides by up to 12%.

WHAT WILL YOU SEE?

The treatment of engine exhaust gas by an EGCS generates water vapor which can often be seen as a white plume from the ship's stack. In cooler climates, the white plume may be more visible and, in near-shore environments with elevated topography and little or no convection, there may be a darker than normal appearance.

