Retrofit 2,248 buses for engine bay protection using high pressure watermist in 10 months – NSW Australia

Mick Cory, Kristian Bischoff

Firestorm Fire Protection, Australia, mick@firestormgroup.com.au

Firestorm Fire Protection, Australia, kristian@firestormgroup.com.au

Abstract

[Background] Fires have been a regular occurrence on buses in the engine bay area across the world as cleaner emissions are the focus for a cleaner environment. The consequence in achieving these results are buses are running at higher temperatures under greater pressures and therefore more prone to fires with regular occurrence of engine bay fires on buses particularly in Australia where temperatures are high across the Nation. A fire on the famous Sydney Harbour Bridge in Australia in September 2016 brought to action to expedite a program for the retrofit of 2,350 buses with fire suppression for engine bays.

This project is the largest "P" Mark retrofit of buses in the world. The Project is currently the largest single safety project under watch from the NSW Government.

[Objective] The NSW Government expedited a tender for project retrofit with a decreased timeframe of 10 months and a deadline for completion by August 31 2017. The retrofit of buses involves more than 250 system designs across 40 different sites stretching near 300km with a requirement for the fire system to meet "P" Mark approval from SP Technical in Sweden(now: RISE).

[Method] Firestorm's proposal included use of a high pressure water mist system, that had passed the "P'' Mark approval involving a design team, recruitment of over 50 new employees, involving 15 teams working up to 7 days per week installing across numerous sites with a workshop preparing kits across 2 shifts.

[Results] The Project is currently on time to date with over 1,700 installs and has been a success given the complexity of the project, the need to procure inventory from Sweden to Australia by air and sea with different engine volumes requiring calculation to understand the amount of agent used for each bus as well as designing a fire system to fit within the "P" Mark specification.

[Main Conclusion] The TfNSW Project retro fitout of high pressure water mist for bus engine bay fire protection has allowed a major focus on the effective use of water mist for engine bay fire suppression. There will be further major projects to install fire suppression systems with a project for over 2,700 retrofits to occur in the next 12 months for rural and regional NSW. The fit out of Watermist has also highlighted maintenance issues on bus providers with over 50 discharges and a reduction in major fires in NSW.

KEYWORD: high pressure water mist system, "P" Mark, bus engine bay