

Advances in Power and Propulsion technologies to satisfy the needs of the Turkish Navy's TF2000 programme

William Edge BEng, MIMarEST

Principal Marine Engineer, Rolls-Royce Naval Systems

Naval Systems Seminar

Abstract

Modern warship procurement programmes feature a number of political and technical challenges – balancing programme cost and delivery against capability in accordance with extensive technical requirements. The underlying criteria and high level requirements with respect to the power and propulsion system however have remained constant throughout – these systems should be reliable, resilient and robust whilst minimising the impact on the vessel's payload. With the foray into all electric warships proving economically challenging and potentially unnecessary for the escort market, sophistication through simplicity is a philosophy that has gained momentum in naval acquisition spheres with optimised hybrid and mechanical systems delivering the required capability to cost and schedule.

Such a philosophy is prevalent with the Turkish MILGEM programme and should extend to the upcoming TF2000 programme. Much in the same way as the MILGEM platforms, the power and propulsion systems must be specified to meet the needs of today's naval forces, and, whilst being mindful of the lessons learnt from yesterday, acknowledging technology advances when they become apparent. The author will draw on examples from recent naval procurement programmes across the globe to highlight key factors in the successful design of modern power and propulsion systems that will ultimately contribute to the future vessel becoming a success or a failure.

This paper reviews the selection of surface warship power and propulsion systems; the systems currently entering service as well as in build and projected future systems including possible candidates for the Turkish Navy's TF2000 programme.