

## SECTION 16. PRINCIPAL FINDINGS

16.1 The fire in HMAS WESTRALIA on 5 May 1998 was caused by diesel fuel from a burst flexible hose spraying onto a hot engine component and then igniting. The hose was one of a number of new flexible hoses supplied by the ship's support contractor, ADI Limited, to replace the original rigid pipes. In the Board's view, the hoses were not properly designed and were unfit for the intended purpose.

16.2 A change of this type should have been processed through the RAN configuration change process as well as being approved by the ship's classification society, Lloyds Register. Both processes were bypassed, largely as a result of ignorance and incompetence. Key personnel within the RAN, and more particularly ADI Limited, were not adequately trained or qualified for the responsibilities placed on them. Regardless of the scrutiny that was avoided by bypassing these approval processes, ADI Limited should have taken steps to ensure that a safe, properly engineered product was supplied for a demanding application; it demonstrably failed to do so.

16.3 The four personnel who died in the fire did so as a result of acute carbon monoxide toxicity consequent upon inhalation of fire fumes. From the rapid increase in the magnitude of the fire and consequent production of smoke and fumes, the Board is able to conclude that incapacitation occurred within five minutes and death within 10 minutes of the outbreak of the conflagration and well before the CO<sub>2</sub> drench.

16.4 The dangerous and difficult fire in the main machinery space of WESTRALIA was fought heroically and effectively by the ship's crew. There were many acts of bravery and exceptional performances on the day. The Board has identified a number of personnel in the recommendations whom it believes should be singled out for special recognition. The choice has been difficult.

16.5 WESTRALIA received excellent support from a wide variety of sources and it was most welcome but not used to its full potential. The ship's crew can take great pride in the fact that they saved their ship. Tragically, nothing further could have been done by them to save their shipmates.

16.6 The Board's many recommendations have been drafted with the clear aim of preventing a re-occurrence and making life at sea safer. Unfortunately, there can be no guarantees that fire can be totally avoided in what is inherently a dangerous environment.