we have decided to declare four of our oldest minesweepers surplus, and the six remaining ships have been put in a state of preservation until disposition studies have been completed.

The hon. member for Calgary North inferred that we were wild-eyed innovators to substitute gas turbine engines for steam engines in the four DDH's in the shipbuilding program. He must have been talking to an ancient mariner. Gas turbines have built up a reputation for reliability in aircraft application which is not surpassed by any other form of propulsion in the world. Canadians trust their lives to these engines every day.

Reliability is not an accident. It is the result of extensive testing and development. This work can only be financed on the logical expectation of an engine builder that large numbers of engines will be sold. This expectation leads to production line techniques and extremely high levels of quality control. The quantities of engines manufactured leads to lower costs for a higher quality of end product.

The navies of the world are now starting to capitalize on all the work that has gone into the testing and development of these engines. The Royal Navy started in this field in 1947. Since that time they have been followed by the West German, the Danish, the Italian and the Russian navies. In the United States, the coast guard has been the pioneering service. So far a total of 57 warships are built, or in the course of construction, and in addition a 48-ship building program is in progress for the U.S. coast guard.

All of the earlier propulsion plants combined gas turbines with some other form of prime mover, for example, steam or diesel. However, studies of the operations of these ships have shown that the operators prefer to use the gas turbine plant rather than another prime mover in the ship.

As a result, the tendency is toward the use of all gas turbine power plants. The U.S. Navy is in the preliminary stages of discussing with industry the design and construction of some 18 to 24 fast deployment logistics ships. The Royal Navy announced earlier this month that a Blackwood class frigate, HMS *Exmouth*, would be fitted with all gas turbine machinery to complete by the summer of 1968.

Gas turbine marine propulsion offers a number of operational and economic advantages. A brief list of the more important of these include lower over-all weight, greater endurance, markedly higher power in a given space and hence greater speed, reduction in the number of operators and maintainers and lower maintenance costs. A detailed study of all facets of gas turbine engines has demonstrated that for the Royal Canadian Navy the gas turbine propulsion plant is best for installation in its helicoper carrying destroyer program.

In this context, it might be noted that by comparison with a steam plant, an increase of over 60 per cent in horsepower will be possible from the gas turbine engines without a corresponding increase in cost or size of the vessel.

To this end, the Department of Defence Production, on behalf of the Department of National Defence, has instructed two leading aircraft firms to proceed with the design of the DDH propulsion plant on a competitive basis. The results of this competition will be used to select the propulsion equipment to be purchased for the DDH at a firm fixed price, with guarantees of performance, and a fixed delivery schedule. This has never been accomplished before in Canada for this type of naval vessel.

The hon. member for Calgary North raised one or two points in respect of organization. He made reference to the change in organization at Canadian forces headquarters. It is true that since the special committee on defence was briefed on May 26, 1964, that the positions of vice chief of defence staff and chief of operational readiness have been combined, and the name assistant chief of defence staff has been changed to deputy chief, plans, with no change in function. This combination was contemplated from the outset and its implementation ends an interim situation which was required for the transition.

The second point was that the lines of communication from commands are more complicated than previously. This is not so. The integrated command structure, providing for command of the defence forces to be centralized under a single chief of the defence staff who exercises control through functional commanders, meets the aim of integration of reducing overhead and increasing efficiency. It reduces the over-all number of commands and places each functional responsibility under a single commander.

Commanders are responsible to the chief of the defence staff for the operational and support service functions. Provision is made for commanders to communicate directly with each other on all matters of mutual interest and concern.