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DEFENCE

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NEW DEVELOPMENT schedule and

an increase in the number of pre-
production aircraft are the main
United States Air Force proposals in
reply to a report on the Rockwell B-1 project ordered after the schedule re-arrangement last year (see Flight for July 26, page 171, and August 9, page 275). The date for a production de-cision has been put back a further six months, to November 1976, and the USAF is trying to return to the originally planned five pre-production aircraft instead of the present three. In addition, the first B-1 will not now fly until this autumn instead of at the end of June.

The committee which examined the project, headed by Dr Raymond Bisplinghoff, deputy director of the National Science Foundation, reports that "there will be difficulty in tran-sition from the development to the production phase as the programme is now structured." The reasons given are that it is too "success-oriented" and austere in funding—the appro-priation for the current fiscal year, which ends on June 30, is $448-5 million and the request for next year is $499 million (seeFlight for February 21, page 246).

Although the committee believes that "there are no major technical problems which preclude the success-ful development and production of the B-1," it foresees an eight/ten-month delay in the overall testing pro-gramme as well as later dates for first flights of the initial three aircraft.

Lack of continuity

It is largely because the committee foresees a lack of continuity between the development and production stages that the USAF, through Air Force Secretary John H. McLucas. has told the Senate Armed Services Committee of its desire to return iO a five-prototype project. Assuming the approval of Congress, the USAF and Rockwell plan to start work on the fourth pre-produclion B-1 in Novem-ber this year and the fifth in late 1975 or early 1976.
These two aircraft will have to be covered by R&D money but will incorporate production-aircraft modifi-cations, and will eventually be refur-bished to complet e production standard and enter the Strategic Air Command inventory. A request for money to cover the fifth aircraft in

Fiscal Year 1976 is likely to depend to a large extent on the reaction of Congress to the plan to start building the fourth this year.
There is no doubt that extending the programme will add to the cost of development, and the Bisplinghoff committee suggests that the increase will be "at least" $300 million. Although the USAF has made new cost estimates since last summer, the figures at that time remain the latest published. Using predicted inflation rates, the USAF reported then a unit production cost in 1980 of $44-1 million and a unit programme cost, including R&D, of $54-6 million. One report suggests this has now risen to $56 million. The increase in develop-ment cost caused by re-scheduling last July was $80 million, and it is not clear whether this sum has been factored into the committee's estimate of at least $300 million.

Production decision

With a production decision due in November 1976, the B-1 is expected to have completed about two years of flight testing before a go-ahead under the "fly-before-buy" scheme. The US Air Force intends, because it believes sufficient test data will by then have been accumulated, to ask for Fiscal Year 1976 money for long-lead items on the first batch of production air-craft to preserve continuity without prejudging the production decision. Manufacture of these first production B-ls would actually start during Fiscal Year 1977.

There seems to be some measure of disagreement between the com-mittee and the USAF on the B-l's ability to fulfil its role. While the latter is saying that no design changes are at present planned purely to regain projected performance shortfalls, the committee lists a number of key areas in which it thinks performance will differ from the original design.
Take-off weight has long been some-thing of a bone of contention, and the committee sees a 10 per cent increase. The specification has never been rigid, with Rockwell working at between 350,0001b and 400,0001b. Expected take-off weight of the first aircraft is about 389,0001b. The USAF believes that various refinements will allow the fourth aircraft to be lighter than the first three. Dr Bisplinghoff reckons that empty weight will probably be

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19 per cent up, though this might be as little as 6 per cent or as much as 26 per cent. The last figure is regarded as "reasonably adverse."
The committee foresees shortfalls in range performance—probably 11 per cent on a variable-subsonic mission and 9 per cent on a variable-super-sonic mission; these figures nrght de-cline to "reasonably adverse" ones of 20 per cent and 14 per cent respec-tively. On subsonic missions specific fuel consumption of the General Elec-tric F101 engines is expected to be about 8 per cent up in total, with 3 per cent of that being in shortfall on the qualification test goals.
On supersonic missions, however, the engine is expected to meet speci-fications, and the committee makes a point of saying that engine develop-ment is particularly good at this stage compared with previous programmes. "The engine has an excellent oppor-tunity to meet the cost and schedule objectives and, with a few minor ex-ceptions, the technical goals."

Field performance
Also included in the committee's list of performance variations are a prob-able increase of 15 per cent in the standard-day take-off distance and 6 per cent in landing distance. In spite of these shortfalls, the committee con-cludes that the aircraft should still be operationally effective against ex-pected Soviet defences into the 1990s. The USAF is to make a new study of B-1 performance nevertheless.

Rockwell remains optimistic: the possible addition of the fourth and fifth vehicles "goes a long way toward providing an orderly transition into a production contract," says B-1 Division president Bob Greer. "From a local standpoint it will be a big boost in stabilising our employment picture. I've been deeply concerned for a long time how we would fill the void between R&D and production. . . . This expanded programme . . . will ease the situation considerably."

While Rockwell remains optimistic, critics of the B-1 are now likely to have a further chance of attacking the project. Spreading development over a greater time is bound to subject the B-1 to increased budgetary pressure and if any of the air-launched ICBM projects is accepted for further de-velopment (see following pages) critics may find i1 easy to say that the highly specialised low-level penetra-tion B-1 is not needed at the price.
• Rockwell International is to form a new aircraft group with head-quarters in Los Angeles, called the North American Aircraft Group. It will be composed of Rockwell's B-1, Los Angeles Aircraft, Columbus Air-craft and Tulsa divisions, all of which have up to now been part of the North American Aerospace Group. The balance of the old group of com-panies, the Space, Rocketdyne and Atomics International divisions, will be renamed the North American Space Group.