

B-52 Re-Engining Program Begins

May 29, 2020

On May 19, 2020, the U.S. Air Force released a [request for proposals](#) to replace the TF33 engines powering the B-52H Stratofortress bomber fleet with 608 new engines, in a contract running up to 17 years. The request does not give a dollar value for the contract, but the Air Force had previously estimated the cost at [\\$1.4 billion](#) from FY2019 to FY2023.

The Air Force currently operates [76 B-52Hs](#), the most recent of which was built in the 1960s. The Air Force now expects to operate them until 2050. The last TF33 engine was built in [1985](#). (For more on the B-52 fleet, see CRS Report R43049, *U.S. Air Force Bomber Sustainment and Modernization: Background and Issues for Congress*.)

Figure I. Engine Mounting on B-52



Source: U.S. Air Force.

The re-engining effort (officially the Commercial Engine Replacement Program, or CERP) had been anticipated for some time, as the Air Force had announced its plans to extend the B-52s' service into at least the 2040s, and had [held an industry day](#) on December 12, 2017, to share information and solicit vendors for the program. Boeing, the B-52 prime contractor, even produced [an animated video](#) touting the benefits of re-engining.

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The solicitation calls for engines that are military-specific derivatives of existing commercial engines. Given the specification that the eight engines on each B-52 were to be replaced by eight new engines (as opposed to, perhaps, four larger engines), the expected candidates are variants of engines currently used for business jets and regional airliners, as those best approximate the physical size of the TF33s to be replaced while offering considerably improved fuel efficiency.

CERP's principal goals are to reduce the fuel cost of operating the B-52 fleet while increasing reliability. The engines under consideration provide similar thrust to the existing TF33s but are based on much more recent designs. Also, as their commercial versions are in current service around the world, they can be supported more easily using the commercial logistics infrastructure. Most commercial equivalents of the TF33 have been retired, as have most TF33s used in other Air Force aircraft.

Potential vendors had already placed their candidate engines on display at public conferences, and are believed to include

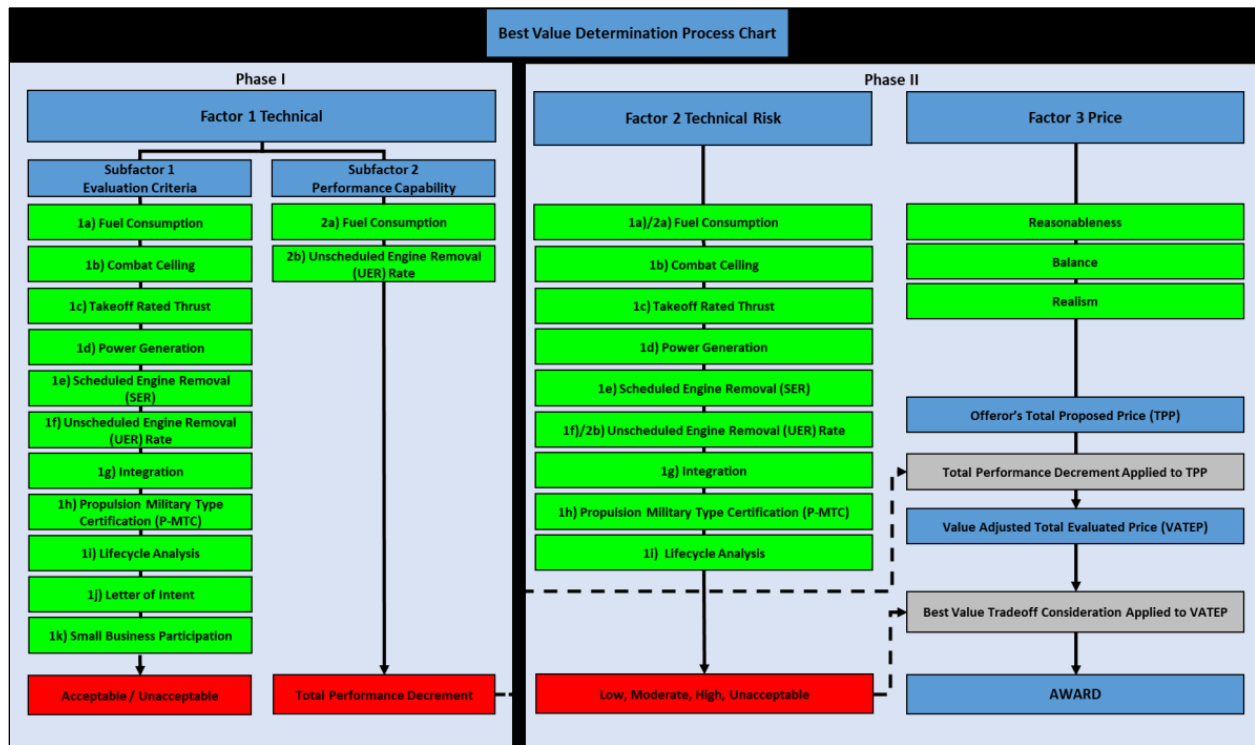
- GE Aviation (Evendale, OH), offering variants of the [CF34](#) and [Passport](#) engines;
- Rolls-Royce (Indianapolis, IN) proposing a modified [BR725](#);
- Pratt & Whitney (East Hartford, CT) with a militarized [PW800](#).

Proposals are due to the Air Force by July 22, 2020, with the contract to be awarded in June 2021. Initial engines are required to be delivered within 18 months of order.

The Air Force intends to award the indefinite delivery/indefinite quantity contract as a rapid prototyping effort under what is known as Section 804 acquisition authority. Use of this authority had [attracted controversy](#) among some Members of Congress. In the conference report accompanying the FY2020 National Defense Authorization Act (S. 1790), Congress required that the Air Force submit a report detailing the acquisition and logistics strategies, key performance parameters, and other aspects of CERP, and withheld 25% of the \$175 million pending release of that report. Although the Air Force has not announced whether the report has been submitted, the CERP solicitation and its appendices include the data requested in the NDAA conference report.

The competition is to be based on best value, with technical risk and price given approximately equal weight. Specific evaluation factors are shown in **Figure 2**.

Figure 2. Best Value Factors



Source: U.S. Air Force solicitation, "B-52 CERP Commercial Engine Replacement Program (CERP) Engine Contract," Appendix F, available at <https://go.usa.gov/xwqey>.

Author Information

Jeremiah Gertler
Specialist in Military Aviation

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