

AMENDMENT 0002
BAA 07-029
RESEARCH AND DEVELOPMENT (R&D) AND
EXPERIMENTATION ON THE USS ARLEIGH BURKE
(DDG 51) FLIGHT IIA CLASS SHIP

The purpose of this Amendment is to provide the following Questions and Answers:

Question (1): The BAA focuses primarily on power generation alternatives that save fuel but leaves an opening for main propulsion plant proposals that are aimed at saving fuel. Would a white paper focusing on main propulsion plant fuel conservation solutions be considered responsive to the intent of the BAA and be considered as a valid proposal suggestion?

Answer: Yes.

Question (2): Can ONR provide an unclassified hourly baseline endurance mission scenario indicative of the existing DDG51 Flight IIA, for comparative analysis purposes, to access baseline fuel consumption, volume, weight, and subsequent fuel savings potential complete with:

- a. Endurance run duration in hours
- b. Endurance run total fuel consumption or by the hour if variable
- c. Hourly electrical load requirement while under power
- d. Percent load per operational turbine
- e. Percent HP or kWe per operational turbine
- f. Ambient air and sea water temperatures for endurance run.

Answer: Please refer to Attachment 3, Government Furnished Information (GFI) for DDG51 Fuel Efficiency BAA of Amendment 0001.

Question (3): Can ONR provide an unclassified historical typical 8760 hourly baseline annual mission scenario for comparative analysis purposes, to assess baseline fuel consumption, volume, weight, and subsequent fuel savings potential complete with:

- a. Total fuel consumption by the hour;
- b. Hourly consumption to satisfy electrical load requirement;
- c. Average propulsion turbine efficiency;
- d. Average turbine generator efficiency; and
- e. Average ambient air and sea water temperatures

Answer: Please refer to Attachment 3, Government Furnished Information (GFI) for DDG51 Fuel Efficiency BAA of Amendment 0001.

Question (4): Can ONR stipulate a forecasted percentage increase in annual usage patterns in hours/year by the modernized Flight II's for uniform comparative negative fuel savings in our analysis?

Answer: For this BAA, there is no planned increase in total hours of operation/year.

Question (5): What fuel type is expected to be used?

Answer: At present, DDG51 class ships utilize NATO F76 (10,000 ppm sulfur max) fuel. A second variant is JP5 (3,000ppm sulfur max) Studies are underway to consider incorporating JP5 as a single source of fuel but is not presently approved. Systems proposed for this BAA should therefore assume present fuel (NATO F76) and sulfur levels. Systems requiring the use of JP5 instead of F76 will be evaluated to determine shipboard impact of fuel conversion.

Question (6): What maximum sulfur content should be expected in 2016?

Answer: Please refer to the response to Question (5).

Question (7): Projected total crew size?

Answer: According to www.navy.mil, the shipboard complement is 323 personnel .

Question (8): Forecasted incremental electrical capacity for future weapons/systems, in MWe?

Answer: For this BAA, there is no planned incremental electrical capacity for the DDG51 Class ships.

Question (9): Is the July 13th white paper submission date going to be extended?

Answer: No, the due date for white paper submission remains the same.

