<u>SUPPORTING STATEMENT – PART B</u>

B. <u>COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS</u>

If the collection of information employs statistical methods, it should be indicated in Item 17 of OMB Form 83-I, and the following information should be provided in this Supporting Statement:

1. <u>Description of the Activity</u>

The population of interest for the 2022 Exceptional Family Member Program (EFMP) Survey consists of active duty members who are below flag rank and in the Army, Navy, Marine Corps, or Air Force. This survey will be a census of all members who have a dependent in the Exceptional Family Member Program. This is the first survey conducted of this population.

2. <u>Procedures for the Collection of Information</u>

Describe any of the following if they are used in the collection of information:

a. Statistical methodologies for stratification and sample selection;

This is a census of the EFMP population.

b. Estimation procedures;

OPA weights the eligible respondents in order to make inferences about the entire EFMP population. The weighting methodology utilizes standard weighting processes. First, we assign a base weight to the sampled member based on the reciprocal of the selection probability. Second, OPA uses 20-30 administrative variables in the XGBoost application of Generalized Boosted Model (GBM) to predict survey eligibility and completion. OPA's accurate and detailed administrative data on both survey respondents and nonrespondents provides confidence in our survey estimates. We adjust the sampling weights and then all prior-stage weights by the inverse of these model-predicted probabilities to adjust for nonresponse. Finally, we rake these adjusted weights to known population totals to further reduce the variance and bias of the estimates.

c. Degree of accuracy needed for the Purpose discussed in the justification;

OPA creates variance strata so precision measures can be associated with each estimate. We produce precision measures for reporting categories using 95% confidence intervals with the goal of achieving a precision of 5% or less (e.g, 80% (+/- 5%) of Army E1-E4 are satisfied with their job).

d. Unusual problems requiring specialized sampling procedures; and

Not Applicable.

e. Use of periodic or cyclical data collections to reduce respondent burden.

Not Applicable.

3. <u>Maximization of Response Rates, Non-response, and Reliability</u>

To maximize response rates, OPA offers the survey via the Web and uses reminder letters and emails to maximize response rates. To reduce respondent burden, web-based surveys use "smart skip" technology to ensure respondents only answer questions that are applicable to them. To deal with instances of nonresponse, OPA adjusts for nonresponse in the weighting methodology. To ensure the accuracy and reliability of responses, OPA conducts a nonresponse bias (NRB) analysis every third survey cycle and will conduct one in 2022. Historically OPA has found little evidence of significant NRB during these studies; however, OPA statisticians consider the risk of NRB high and consider it likely the largest source of error in OPA surveys. OPA uses probability sampling and appropriate weighting to ensure the survey data can be generalized to the universe under study.

4. <u>Tests of Procedures</u>

Not applicable.

5. <u>Statistical Consultation and Information Analysis</u>

a. David McGrath, Branch Chief; Statistical Methods Team, Methods, Analysis, and Systems Support, Office of People Analytics (OPA); (571) 372-0983.
Wendy Barboza, Team Lead; Statistical Methods Team, Methods, Analysis, and Systems Support, Office of People Analytics (OPA); (571) 372-1099.

b. The data will be collected by Data Recognition Corporation (DRC), which is OPA's operations contractor. Valerie Waller is the Senior Managing Director at DRC.
The data will be analyzed by OPA analysts. Lindsay Rock is the project manager and Amy Campbell is the lead operations analysts.