



To Interested Industry Party,

The Naval Surface Warfare Center (NSWC) Corona, which specializes in Interface Assessment and Metrology for the warfighter, is conducting research on the geometric variability of additive manufacturing (AM) equipment towards the development of an additive manufacturing qualification process. The process described in this document has been used in the evaluation of Naval shipboard AM machines with the goal to standardize the evaluation process across multiple Department of Defense (DoD) AM technologies in fused deposition modeling (FDM), direct metal laser sintering (DMLS), electron beam melting (EBM), selective laser sintering (SLS) and other AM technologies.

NSWC Corona is proposing to conduct this research through collaboration between government and industry by first conducting “round robin” testing of four artifacts designed by NSWC Corona. Participation in the round robin test requires producing parts in a specified fashion at industry expense and sending them to NSWC Corona for inspection and written results. The overall project results will be a collection of measurements on parts produced by various AM machines that will be utilized to comparatively evaluate geometric and tolerance variation.

Additive Manufacturing Round Robin Test

NSWC Corona is conducting an additive manufacturing round robin test to evaluate AM machine performance by measuring a series of four artifacts produced by various AM technologies that test the 14 different geometric dimensional and tolerance (GD&T) parameters during manufacturing.

NSWC Corona is requesting participants to manufacture each of the artifacts which will then be measured at NSWC Corona, the Navy’s measurement science and calibration agent. The participant will incur all costs of producing the artifacts without reimbursement.

Participation Requirements:

Models of the artifacts will be provided by NSWC Corona. The participants will be asked to manufacture each of the artifacts in designated locations on the build plate; e.g., closest to door, furthest from door. As part size is a factor among varying AM technologies, the participant can choose to build scaled versions of the artifacts.

The results of this effort are part of a comprehensive government study for the evaluation of AM performance of the GD&T parameters. This study, which includes the measurement of the parts as well as the respective dimensional variations, will aim to establish the standards that can be utilized for the calibration and evaluation of DoD AM technology.

Participants will receive detailed measurement results of the artifacts they produce.

Contact Information

For more information or to participate in the round robin testing, please contact:

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