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SUBJ/ADDITIVE MANUFACTURING - A CHALLENGE FOR EVERY SAILOR//

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NARR/REF A IS NAVAL SEA SYSTEMS COMMAND GUIDANCE FOR DEPARTURE FROM SPECIFICATIONS FOR ADDITIVE MANUFACTURING. REF B IDENTIFIES RESPONSIBILITIES FOR EXECUTING AIRWORTHINESS REVIEWS RESULTING IN NAVAL AIR SYSTEMS COMMAND FLIGHT CLEARANCES.// POC/M. FINE/LCDR/OPNAV N4/MEGAN.FINE@NAVY.MIL/TEL: (703) 614-7963 /DSN: 224-7963//

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RMKS/1. The Navy is actively seeking ideas from the Fleet to create innovative solutions to materiel problems. Additive Manufacturing (AM), often referred to as 3 dimensional (3-D) printing, can enable those solutions. AM is the process of making a 3-D object of virtually any shape from a digital model by adding successive layers of material. It includes a diverse set of processes and materials such as plastics, composites, metals and others. Recent technological advances enable manufacturing or cost-effective repair of end-use components, and open the door to an enormous array of new capabilities that will directly benefit the warfighter. Navy leadership encourages Sailors and Navy civilians to use AM, where appropriate, to solve challenging materiel problems.

2. AM provides an opportunity for every Sailor to impact the way their command executes its mission. Throughout the Navy, it is being used to produce prototypes for form, fit, and function, as well as for tooling to include molds, jigs, and fixtures. Sailors and Navy civilians across the Fleet are taking advantage of the opportunity to 3-D print innovative solutions to real world challenges. For example, Navy special operations personnel 3-D printed a new modular, extendable, carbon-fiber tactical ladder at a reduced weight with increased versatility. Shipboard Sailors have harnessed AM to solve every day problems, including items such as a Hydra radio clip and a scullery throat guard. Commanding officers are authorized and encouraged to use additively manufactured components in a safe and
meaningful capacity per references (a) and (b), ensuring installed equipment is not compromised by use of an AM component. Additional guidance from Naval Air Systems Command (NAVAIR) and Naval Air Systems Command (NAVSEA) is in development and will be promulgated by June 2018 to maximize appropriate AM usage in low-risk applications.

3. Naval warfare centers, depot maintenance facilities, and certain ships already have 3-D printers. Fabrication labs (Fab Labs) exist at Regional maintenance centers in the Mid-Atlantic, Southeast and Southwest as well as at Fleet Readiness Center East to help Sailors learn about and use AM; reach out and use them to help solve your challenges through new innovative ideas. Deputy Chief of Naval Operations, Fleet Readiness and Logistics (OPNAV N4) is the Navy lead for AM and challenges every Navy member, active, reserve, and civilian, regardless of rank, rate, or grade to explore new applications for this revolutionary technology. In cases where your team has or seeks to use AM for a cutting edge solution, we encourage you to forward your idea. Solutions with the potential to provide significant benefit to the Navy, in the form of readiness, cost savings, or improved safety, will be presented to Navy senior leadership. Forward all ideas to navyAM@navy.mil no later than 1 March 2018.

4. In order to validate how AM is currently being used throughout the Fleet, and to understand what value its providing across the enterprise, OPNAV N4 requests organizations identify if they have a 3-D printer in their workspaces. If your command has a 3-D printer, contact the OPNAV AM team at navyAM@navy.mil by 30 January 2018 and a Navy AM representative will provide you with a template to uniformly identify the pertinent data. The template captures information such as, printer type, items being printed, what need the item addressed, what value the item provides to your command (mission impact, cost savings, design speed, increased operational availability), etc. This data is critical to support budget processes, mature AM policies, and enhance information sharing and lessons learned across the Navy.

5. A concerted enterprise push to integrate AM into all aspects of naval operations will lead to a stronger, smarter, more agile, and more innovative fighting force. AM will not be a panacea to every materiel problem, but it will be an important operational and acquisition tool as we transform into a digital Navy that is agile and ready to adapt in an uncertain global environment.


7. Released by VADM D. R. Smith, N4. //

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