NASA/MARSHALL SPACE FLIGHT CENTER

JOINT COUNSELING SESSION

Additive Manufacturing & Engineering, Inc. (AME)
William (Bill) P. Ondocsin

July 25th 2023

Background

COMPANY NAME:	**Additive Manufacturing & Engineering, Inc.**	**ADDRESS:**	**128 Hall Bryant Circle NW Huntsville, AL 35806**
OWNER:	**Jerry L. Moseley**	**CONTACT NAME:**	**Bill Ondocsin**
EMAIL:	**wondocsin@amehsv.com**	**YEARS IN BUSINESS:**	**5 Years**
CAGE CODE:	**87S43**	**DUNS NUMBER:**	**081358204**
WEB SITE:	**www.amehsv.com**	**NAICS CODES:**	**332999, 332811, 336412, 336413, 336414, 336415**

Business Size & Classifications

TOTAL EMPLOYEES:	**5 Employees**
AVERAGE SALES:	**$1,300,000 - 2022**

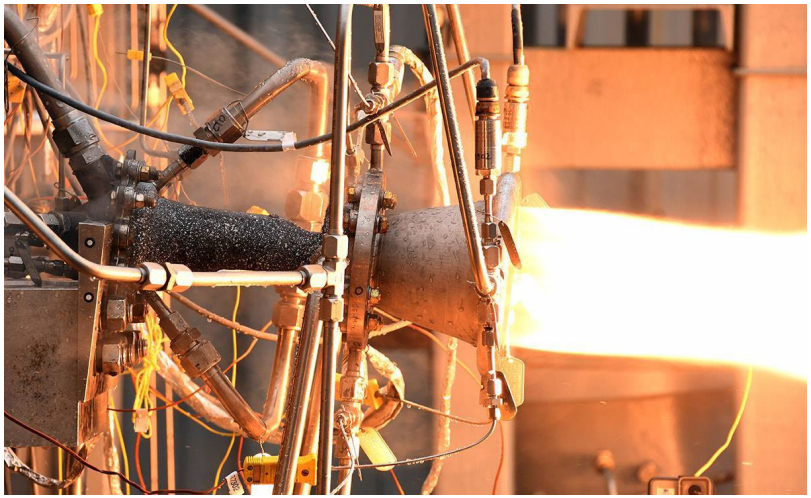
CLASSIFICATIONS (select from list below):	Yes/No
SMALL BUSINESS	Yes
SMALL DISADVANTAGED BUSINESS	Yes
NATIVE AMERICAN-OWNED	No
ALASKAN NATIVE CORPORATION	No
WOMEN OWNED	No
ECONOMICALLY DISADVANTAGED WOMEN OWNED	No
VETERAN-OWNED	No
SERVICE DISABLED VETERAN OWNED	No
HUBZONE CERTIFIED	Yes
8(A) CERTIFIED	No
8(A) EXPIRATION DATE (if applicable)	No

Company Overview

- Additive Manufacturing & Engineering, Inc. (AME) is a minority owned Small Disadvantaged Business (SDB) concern
- Incorporated under the laws of Alabama in 2018
- Founded by Jerry Moseley President & CEO of Moseley Technical Services, Inc. a Staffing and Engineering Services Company operating in Huntsville, AL since 1994
- AME specializes in metal additive manufacturing utilizing the Selective Laser Manufacturing process
- We utilize EOS M400 machines which can produce parts up to 400mm X 400mm X 400mm (16” X 16” X 16”)
- AME has an experienced team of Engineers, Technicians and Metallurgists who have been involved in Metal AME for over 15 years

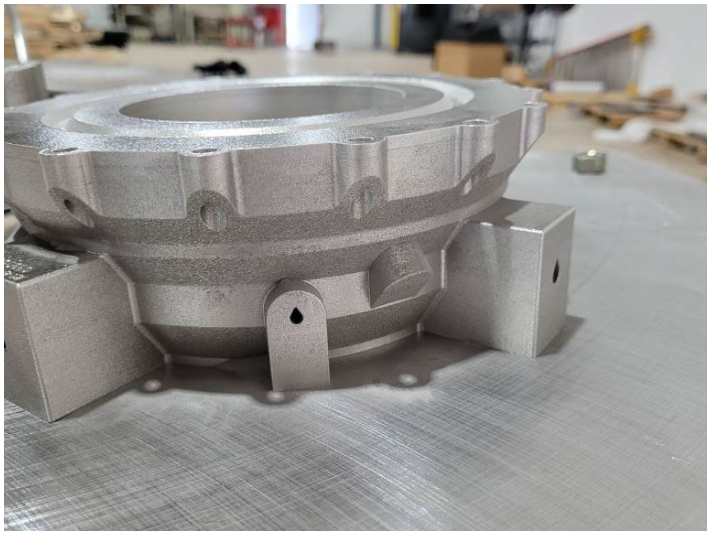
What we do!

- AME produces parts from metal powder using the Selective Laser Manufacturing process
- Materials: Copper, Inconel, Stainless, Titanium, and Aluminum
- Additive Manufacturing can get you from final drawings to ready for a test stand in 12-14 weeks



Photos courtesy of NASA & publicly available in document: 55th AIAA/SAE/ASEE Joint Propulsion Conference 2019

What we do! (continued)



- Parts manufactured by AME in Huntsville, AL and used with permission from our customers:
- Photos used with permission from our customers:

  NASA and Mountain Aerospace Research Solutions.

Why Metal Additive?

- New innovations that require complex interior geometries, which are required in today's rocket & missile engines, and commercial parts
- **Time to market** - Parts take days and weeks from the start of a build to a completed product. This allows for rapid prototypes and increased design cycles.
- **Cost efficient design process** - In addition to the speed in which a part can be produced, design changes can be made, and new revisions can be quickly printed until the design is perfect
- **Speed** - Time to test and time to market is measured in days and weeks, not months
- **Obsolescence and Sustainability** - Additive can allow for the continued maintenance of an aging fleet. Utilizing CAD files, scans of obsolete items into a 3D model, reverse engineering of drawings allows for the reproduction of part that were no longer available.

When to use Additive?

- **Complexity** - When machining just isn't possible! Parts that have small intricate inner channels, interior twists and bends
- **Weight reduction** - Since additive is a process that layer's material, parts can be printed with hollow, mesh or skeletal interiors greatly reducing weight without compromising strength. Parts take days and weeks from start of a build to a completed part. This allows for rapid prototypes and increased design cycles.
- **Speed** - Time to test and time to market is measured in days and weeks, not months
- **When new, exotic or specific materials are required** - There are materials only available through the additive process such as GRCop 42, new alloys and materials are being developed and experimented with every day that will add functionality to a part and will only be available in an additive process.

Why AME?

- OUR EXPERIENCE! OUR TEAM!
  - **Ken Cooper** our Chief Engineer joined AME In 2019 after a 26 years NASA career focused on Additive Manufacturing
  - Tested and developed materials for more then 30 different Additive Manufacturing systems
  - Published and presented more than 50 scholarly papers and articles, on topics ranging from the beam speed effects on Titanium microstructures in electron beam melting to the development and use of the now standard NASA metal powder GRCop-42

  - **Bill Ondocsin** a Cofounder of AME and our Director of R&D, retired from NASA after 38 years serving in multiple program management roles for DOD and NASA.

Why AME (continued)?

- **SIZE MATTERS!**
  - AME has some of the largest commercially available metal 3D printers in the region. We run EOS m400 machines which can produce metal parts in sizes up to 400MM x 400MM x 365MM (16”x16”x14.4”). We can build 1 very large part, or a lot of very small parts.

- **LOCATION, LOCATION, LOCATION!**
  - Located and certified in a HUBZone at 128 Hall Bryant circle, Huntsville Alabama 35806.
  - AME is less then 10 miles from America’s space and missile defense heartbeat! Redstone Arsenal and Marshall Space Flight Center!

Customers

- NASA Marshall Space Flight Center
- NASA Glenn Research Center
- Blue Origin
- SpaceX
- Aerojet Rocketdyne
- Venus Aerospace
- Virgin Orbit
- Argonne National Lab
- MARS (Mountain Aerospace Research Solutions)
- Argonne National Lab
- JACOBS Engineering
- IRocket
- And Others

Quality Systems

- AS9100D
- ISO 9001:2015
- Compliant with NASA standard 6030

Principle Point(s) of Contact

NAME	TITLE	PHONE	EMAIL
Bill Ondocsin	Director of R & D	256-527-1737	wondocsin@amehsv.com