



EMCHFSS II



Electronic, Mechanical, & Composite Hardware Fabrication Support Services II

Pre-Solicitation Conference
NASA Langley Research Center
July 29, 2014



Welcome



Teresa M. Hass
Contracting Officer
Office of Procurement (OP)



Agenda



9:00 am	Opening Remarks	Clayton Turner, ED
9:10 am	Procurement Information	Ceseley Dunbar, OP
9:20 am	Technical Presentation	Ken Deyerle, ED
9:40 am	Q&A	
9:50 am	Break	
9:55 am	Facilities Tour	Deyerle/Dan Carey, ED
11:30 am	Return to Pearl Young	
End of Conference		



Introduction



Clayton Turner, Director
Engineering Directorate (ED)



NASA VISION and MISSION



Deliver on Today's Commitments

Create Tomorrow's Opportunities

NASA VISION

We reach for new heights and reveal the unknown for the benefit of humankind

NASA MISSION

Drive advances in science, technology, aeronautics, and space exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of Earth

NASA Strategic Goals

GOAL 1

Expand the frontiers of knowledge, capability, and opportunity in space.



Langley Strategic Thrusts

- LaRC viewed as a HEOMD/ STMD Strategic Investment
- Agile/Lean Experiment -Terrestrial HIAD Orbital Re-entry
- Key player in the Asteroid Redirect Mission
- Development and Use of Small, Smarter Sensors

GOAL 2

Advance understanding of Earth and develop technologies to improve the quality of life on our home planet.



- Innovative Content in Airspace Ops and Safety Program
- Radical Concepts in the Advanced Air Vehicles Program
- Develop Aeronautics Research Showcase Vehicles
- Capture Next Science Mission/Instrument
- Alternative/Affordable Platforms for Earth Science

GOAL 3

Serve the American public and accomplish our Mission by effectively managing our people, technical capabilities, and infrastructure.



- Revitalization Plan
- Workforce Strategy
- Comprehensive Digital Transformation

LANGLEY VISION

On-Demand Air Transportation

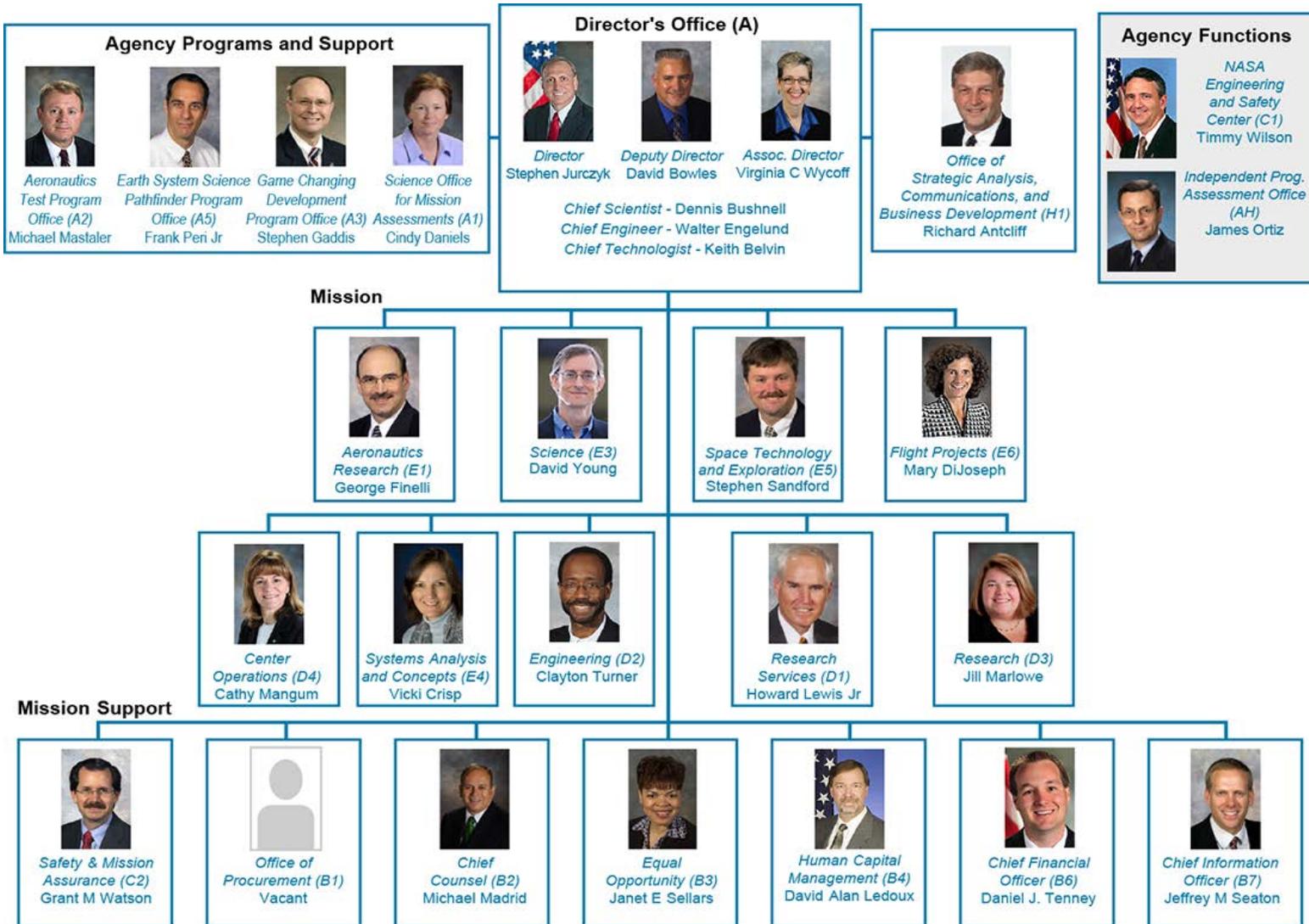
Understanding, Adapting to, and Mitigating the Earth's Climate System

Human on Mars in the 2030's

v H 15b

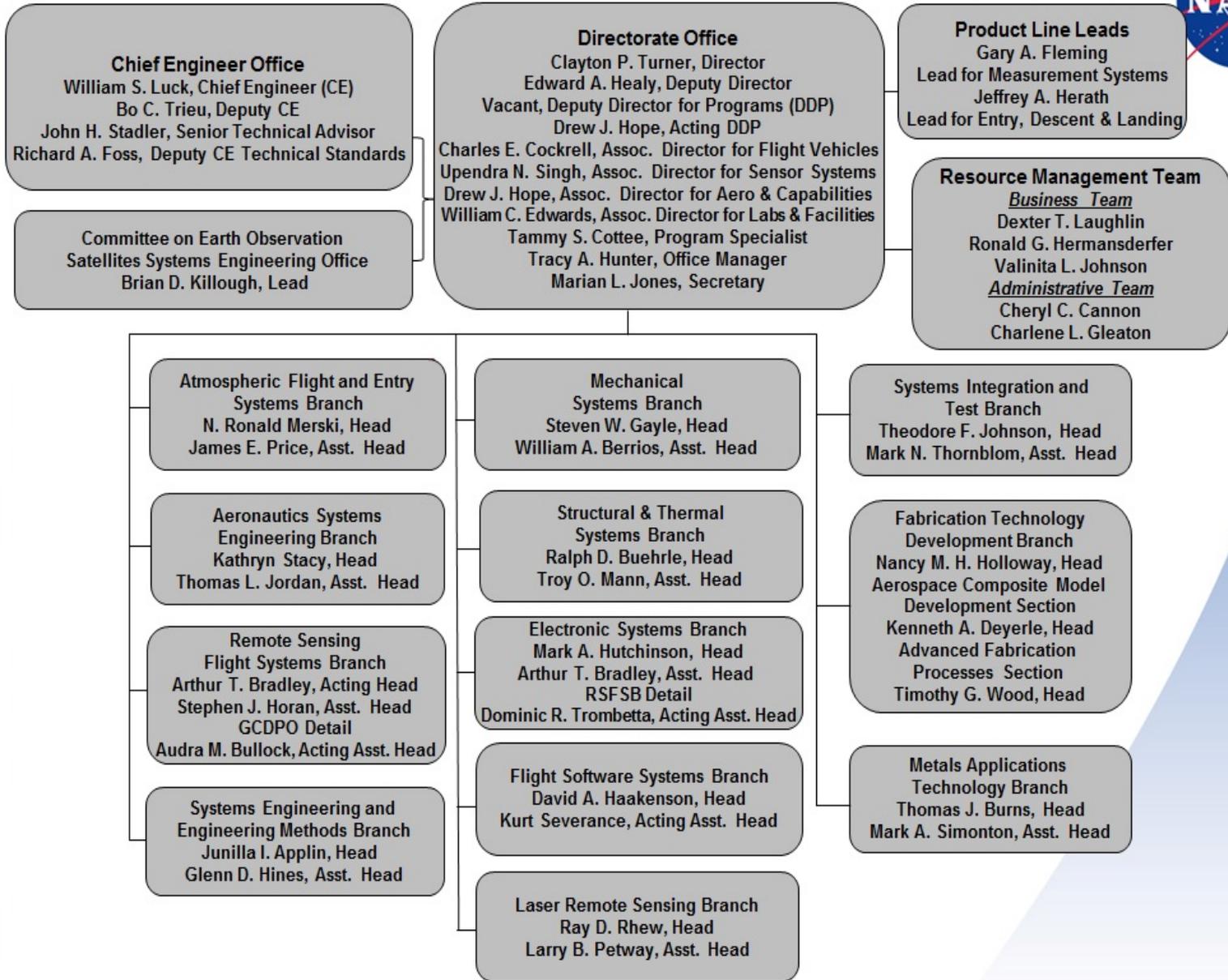


NASA Langley Research Center Organization





ENGINEERING DIRECTORATE





Engineering Directorate Organizational Purpose Statement



- The Engineering Directorate (ED) provides systems concepts, advanced technology, and systems development to support the research, technology development, and mission objectives of the Aeronautics Research, Human Exploration and Operations, Science, and Space Technology Mission Directorates.



18% G550



3% SLS Rigid Buffet Model



8% MLAS
Model



Engineering Directorate



ED focuses on the following services to provide appropriate technical solutions on schedule and within budget:

- **Requirements Development:**

ED provides systems and discipline experts for rigorous development of requirements from research and mission objectives using systems engineering methodology.

- **Technology Development, Integration, and Maturation:**

ED provides systems engineering and discipline engineering expertise to develop and integrate lower technology readiness level (TRL) technology into demonstration test beds and systems, thereby seeding further technology refinements as well as ideas for new technologies, based on the performance of a technology within the intended system and in the relevant physical environment.

- **Systems Design, Development, and Integration:**

ED creates concepts, conducts trade studies, designs, develops, fabricates, integrates, and verifies (performs physical system integration, functional, and environmental testing, and preparation of the system for shipment) hardware and software for research, development, and operational systems for all Mission Directorates.

- **Engineering Environments:**

ED provides integrated engineering environment(s) using collaborative technologies and integrated tools and methods developed in ED, Research Directorate, and Systems Analysis and Concepts Directorate to facilitate cross-Center teaming as well as teaming with personnel from other NASA Centers, industry, and academia.



GTM Remotely Piloted Vehicles



Ares 1-X CM/LAS



Engineering Directorate



Orion Drop Model



SPLASH



IRVE-BTP



Cast Ceramic Models



Kiowa



Electronic Beam Free Form Fabrication



Lunar Rover



Ares 1-X



Procurement Presentation



Ceseley Dunbar
Contract Specialist
Office of Procurement (OP)



Conference Guidelines



- Questions pertaining to the RFP must be submitted in writing.
- Questions pertaining to the facility and equipment will be answered during the tour.
- List of attendees, conference presentation, and response to questions received will be posted on the NAIS/FEDBIZOPS websites
- Cameras are not allowed



Conference Guidelines



- Nothing stated at this conference should be construed as a revision unless subsequently issued in an amendment or incorporated into the final RFP.



ISO Certification



- The contractor's quality system shall be certified/registered to the current international standard ISO 9001, Quality Management Systems Requirements upon proposal receipt (see L.18(e) of the draft RFP).
- Offerors are encouraged to provide evidence of compliance with the above standard as soon as possible.



Proposal Preparation Instructions



- Assure proposal contains all necessary information, required documentation, and is complete in all aspects. The evaluation is based upon actual material presented and not on the basis of what is implied. See FAR 52.215-1 Instructions to Offerors – Competitive Acquisition.
- Ensure that the cost/price proposal is consistent with the technical proposal in all respects since the cost/price proposal may be used as an aid to determine the Offeror's understanding of the technical requirements. Discrepancies may be viewed as a lack of understanding.
- NASA may reject any proposal that fails to comply with all proposal instructions.



Cost Proposal



- The Offeror shall propose the direct labor categories and WYE as set forth in Attachment 6.
- The Offeror shall propose labor for administration and management in addition to the WYEs listed in Attachment 6.
- The Offeror shall propose the following “plug numbers” for material, equipment, travel and training.
 - 1st contract year: \$375,000
 - 2nd contract year: \$390,000
 - 3rd contract year: \$405,600
 - 4th contract year: \$421,800
 - 5th contract year: \$438,700
- The Offeror shall include any additional ODCs other than the categories listed above (e.g., contractor vehicle).



Method of Evaluation (Section M)



- Proposals received in response to this solicitation will be evaluated by a Source Evaluation Team (SET) in accordance with NFS 1815.3
- The Source Selection Authority (SSA), after consultation with the SET and other advisors, will select the Offeror that can perform the contract in a manner most advantageous to the Government, all factors considered.



Evaluation Factors



- **Factor 1—Mission Suitability**
 - Understanding the Requirement and Technical Approach (URTA)
 - Management
- **Factor 2—Cost/Price**
- **Factor 3—Past Performance**
 - Past Performance and Questionnaires are requested to be submitted approximately two weeks prior to the proposal due date



Relative Importance of Evaluation Factors (Section M, Paragraph M.3)



- Overall, in the selection of a Contractor for contract award, Mission Suitability, Cost and Past Performance will be of approximately equal importance. All evaluation factors other than Cost, when combined, are significantly more important than Cost.



Relative Importance of Evaluation Factors (con't) (Section M, Paragraph M.3)



The Mission Suitability subfactor weights are as follows:

Subfactor 1 - Understanding the Requirement and Technical Approach (URTA)	600
Subfactor 2 - Management (MGMT)	400
TOTAL	1000



Schedule



- **Period of Performance:** 2/14 - 3/26 (6-week Phase-In)
3/27/2015 – 3/26/2020

- **Procurement Schedule:**
 - Pre-Proposal Conference 7/29/14
 - RFP Release 8/8/14
 - Past Performance Volume Due 8/22/14
 - Proposal Due 9/8/14
 - Proposal Evaluation Period 9/2014 – 1/2015
 - Award 2/13/15
 - Begin Contract Performance 3/28/15



Technical Presentation



Kenneth Deyerle
Source Evaluation Team (SET) Chair
Fabrication Technology Development Branch (FTDB)



National Aeronautics and
Space Administration



Metals Applications Technology Branch (MATB) Thomas Burns

Fabrication Technology Development Branch (FTDB) Nancy Holloway





Fabrication Facilities & Capabilities



Bldg 1202
Research Labs

Bldg 1225
Advanced Machining
Development Lab & COR

Bldg 1232A
Additive Manufacturing
& Flight Test Article
Development Lab

QA

Bldg 1237A
Materials Casting
Lab

Bldg 1238A
Laser
Manuf
Lab

Bldg 1238B
Composite Test Article
Development Lab

Bldg 1245
Metals Warehouse

- Manufacturing Labs & Facilities**
- B-1225 Advanced Machining Development Lab & Contract Support
 - B1232A Additive Manuf & Flight Test Article Development Lab
 - B-1237A Materials Casting Development
 - B-1238A Laser Manufacturing Develop Lab
 - B-1238B Composite Test Article Development Lab
 - B-1245 Metals Warehouse
 - B-1202 R-115 Research Labs



Facilities Tour



Facility Tour Agenda

- 9:55 am - Bus departs building 1202 to begin tour
- 10:00 am – 10:10 am - Advanced Machining Facility - building 1225,
- 10:15 am - 10:25 am - Flight Test Article Laboratory - building 1232A,
- 10:30 am – 10:40 am - Composite Machining/Material Casting Facility – building 1237
- 10:45 am – 10:55 am - Electronics Lab – building 1238A
- 11:00 am – 11:10 am - Composite Model Development Laboratory - building 1238B
- 11:15 am – 11:25 am - Metal Warehouse - building 1245,
- 11:30 am – Return to vehicles at building 1202
- End of Conference



Facilities & Capabilities



SPOE Office



B1225 Advanced Machining Development Lab

- Fab Business Office (Single Point of Entry SPOE)
- Contact Representative Office – Electronic, Mech, & Composites Fab
- Metal test article machining and assembly
- CNC programming
- 3 & 5 axis CNC metal machining
- 3 & 5 axis CNC turning centers
- Electronic Discharge Machining (EDM) (wire & sinker)
- General & Precision Machining

B1232A Additive Manufacturing & Flight Test Article Development Lab

- Additive Manufacturing Center (AMC)
- *Integrated Structural Assembly of Advanced Composites (ISAAC)*
- Electron Beam Free Form Fabrication (EBF3)
- Waterjet
- Welding
- Large Flight Test Article Assembly

B1237A Materials Casting Development Lab

- Materials Casting (ceramics & resins)
- Composite Materials Machining
- Metal Powder Additive Manufacturing Systems





Facilities & Capabilities



B1238A Laser Manufacturing Development Lab

- Laser Ablation – Surface Engineering & Marking
- Small Sats Lab – Lab 77
- Electronics Lab – soldering and ESD station



B1238B Composite Model Development Lab

- Composite Test Articles
- Instrumentation -Test Articles
- Autoclaves
- Composite Materials Processing
- Automated Composite Ply Cutter
- 3 & 5 axis CNC Composite Materials Machining
- Laser Tracker – Reverse Engineering



B1245 Metal Storage Facility

- Metals Warehouse
- Metal cutting



Facilities & Capabilities



B1202 Research Lab

- Flight Electronics Lab
- Conformal coatings
- Electronics assembly
- Soldering and ESD stations





Work-Related Information



- The services shall encompass three functional fabrication work areas :
 - Electronics Fabrication
 - Mechanical Fabrication
 - Composite Fabrication
- The work is research-oriented, one of a kind flight test articles and assemblies for ground support equipment, aircraft, spaceflight, laboratory, science, research facilities and instrumentation requirements.
- Government provided facilities on-site at NASA Langley Research Center.
- The work is performed in accordance with task orders that shall include performance standards and fabrication specifications in the form of schematics, assembly drawings, sketches, wiring diagrams, and/or written requirements describing the work.
- Much of the work is concurrent design and build with less than well defined requirements.
- The Technicians are highly qualified personnel with specialized skills and certifications in each technical area.



Work-Related Information



- Historically, graphics-related special fabrication processes have only been required 1 or 2 times per year and no government property or resources are available.
- Historically, there have been 5-6 rapid response requests per year with the total average of 8 hours of effort provided per request.
- Contractor will be required to transport material, equipment and parts from one building to another on-site at LaRC utilizing Contractor provided vehicle(s).



Electronics Technical Capability



- Developing state-of-the-art space flight electronic systems emphasizing signal processing, data acquisition, microprocessors, control systems, robotics and data formatting through performance modeling and trade-off analysis.
- Digital/programmable logic design [Read More \(Download Accessible JPG Plug-in\)](#)
- Analog design for detector signal conditioning, filtering and data acquisition
- Robotics
- Flight controls
- Power systems design
- EEE parts, packaging and manufacturing
- Electronic fabrication and testing
- Fabrication and PCB layout
- Environmental testing
- Computer aided engineering and design for electronics (CAEDE)



Electronics Equipment



- Clean Labs
- Evaporator & Sputtering
- Photolithography Lab
- Reactive Ion Etcher
- Scanning Electron Microscope
- Spray Booth
- Soldering and ESD Benches



Mechanical Technical Capabilities



- Metallic Test Article Fabrication
- General & Precision Machining
- CNC Programming
- CNC Test Article Fabrication
- Exploration Hardware Development
- Research Aircraft Hardware Dev.
- Sheet Metal
- Advanced Processing (*Water Jet, E-Beam*)
- Welding



Mechanical Equipment



- 3 – 5 Axis CNC Mills and Lathes
- Conventional Mills and Lathes
- 4 Axis Electronics Discharge Machines
- Precision Jig Border
- Water Jet Technology
 - Flow WMC2 Water Jet
 - Flow Mach 4XD Water Jet
- Press Brake, Shear and Roller
 - Maximum 20' Diameter X 10' Width X 1" Thick Material
 - Welding (Stick, MIG, TIG)



Composites Technical Capability



- Remotely Piloted Vehicles
- Wind Tunnel Models
- Composite Panels
- Instrumentation
- Laser Tracking
- Large Composite Structures/Habitats
- Research Composite Panels
- Tunnel Blade Repair
- Additive Manufacturing – Models, Mock-ups, Hardware
- Ceramics – Wind Tunnel Models, Hardware
- Heat Treating
- Laser Ablation
- Materials Casting
- Precision Composite Specimens



Composites Equipment



- Autoclaves
- NC Equipment
- Laser Trackers
- Brazing
- Laser Ablation
 - CO2 Laser
 - Nd:YAG Laser
- Composites Machining
- Electron Beam Freeform Fab (EBF3)
- Fused Deposition Modeling (FDM)
- Objet – Digital Materials
- Selective Laser Melting (SLM)
- Sterolithgraphy Apparatus (SLA)
- Thermojet Wax Printing
- ZPrinter
- 3-D Desktop Printers (Makerbots)



Fabrication Made Easy

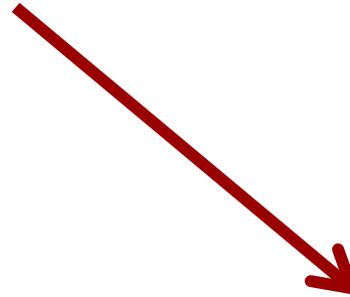


Requestor

Production Controller



Fab Business Office
or Single Point of
Entry (SPOE) Office



**In-House Civil
Servant/EMCHFSS
Contractor build**



**Procure on non-
EMCHFSS Contracts**



Q&A



Questions



THANK YOU!

Take a 5 minute break then board the bus for the facilities tour. The bus departs at 9:55 am.

Electronic, Mechanical and Composites Hardware Support Services Contract (EMCHFSS) II

Pre-Solicitation Conference

7/29/2014

Attendee List

	NAME	COMPANY
1	Charles Masser	Triumph Aerospace Systems
2	Troy Nevins	Nakuuruq Solutions LLC
3	Don Atwell	Nakuuruq Solutions LLC
4	Leon Council	Science Technology Corp. (STC)
5	Richard Gray	STC
6	Richard Manning	STC
7	Terri Miller	Sierra Lobo, Inc
8	Vernon Vann	Sierra Lobo, Inc
9	Richard White	ViGYAN, Inc