**PEWG and Tinker Air Force Base**

**Oklahoma City Air Logistics Center, OKCALC/LR, Tinker AFB, OK, 73145**

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Overview

• PEWG

• HVOF

• New Starts at TAFB
PEWG

A Propulsion Community Collaboration for Advanced Turbine Engine Technology Insertion
PEWG Mission

• Work within the military propulsion community to discover and insert safe, clean, and effective manufacturing and repair technologies to improve product performance, sustainability, affordability, availability, and competitiveness with foreign technology.
Improvement Targets

• New engine and part manufacture
  – Component design
  – Industrial processes

• Fielded engine repair
  – Repair methods
  – MRO processes
Technology Readiness Levels

- Identify project opportunity
  - S&T TRL 7 development
  - Component improvement
  - Process improvement
- Test and demonstrate
  - Real part, real engine
  - Shop floor
- Qualify specification changes
Guidance for PEWG Project Proponents

1. Show evidence your technology is TRL Level 7+
2. Identify specific GTE components that will benefit
3. Identify specific benefits that will accrue
4. When requested by PEWG Management, provide information required by source of project funds
5. Nominate projects by contacting the PEWG Management Office Bob.Bondaruk.ctr@tinker.af.mil
6. Proponents may be invited to present at PEWG meeting – For details visit www.pewg.com
HVOF
TINKER FACILITY

• TWO BOOTHs SHARING ONE CONTROL ROOM

• ONE BOOTH DEDICATED FOR BLADE COATING

Sulzer Metco Diamond Jet Controller

9MP DJ Powder Feeder

Sulzer Metco Diamond Jet Gun

Cryogenic Oxygen Supply

Fanuc M16i Robot

M16i Robot/ Sulzer Metco 9HL Turntable

Temperature Measurement

• Temperature Display
HVOF Qualification

TF33 No 4 Hub
AMS 2447-__

F101 2nd Fan Disk  Inconel 718

F100 Balance Nozzle Segment  AMS 2447-__

F118 1st stage Aior Seal  Inconel 718
Summary HVOF

- Successful technology insertion
- Qualified on TF 33 & F100 component families
- Planning 2 new booths for FY08
HVOF
New Starts

• SermeTel W Cr+6 replacement coatings
  – SermeTel, Alseal, and CERAL
• TBC coating removal inefficiencies
  – High Frequency Forced Pulse Waterjet
• Plasma Coating Removal
  – Qualifying citric acid benign solutions
• Gatorgard equipment replacement
  – Eliminating proprietary process
New Starts (cont’d)

• Supersonic Particle Deposition (SPD)
  – ESTCP ARL collaboration
  – TF33 and F100

• NLOS Cr+6
  – ESTCP collaboration Nano Phosphorous Cobalt

• Field level repair capability
  – Hand held laser
Summary

- PEWG management office now at TAFB
- HVOF project successful and expanding
- New starts are in progress
- Summer PEWG, Phoenix, June 25-28
  - Registration www.pewg.com