Joint Group on Pollution Prevention
Chartered by Joint Logistics Commanders

JG-PP
Partnering for Progress
Aerospace Materials, Processes, and Environmental Technology (AMPET) Conference

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Overview

Who is JG-PP?

What does JG-PP do for you?

What has JG-PP achieved?

Where is JG-PP going?
Who is JG-PP

DoD/NASA flag officer group
- Originally created in 1995 at industry request
- Chartered by Joint Logistics Commanders/NASA HQ

Chartered to
- Reduce or eliminate system hazardous material requirements – Project Benefits
- Avoid duplication of effort – Consensus Building
- Reduce technical risk – Stakeholder Ownership
- Transfer technology - Documentation
- Leverage opportunities -- reduce costs – Cost Control

Dual focus on uniform implementation
- Acquisition (Contractor design) and sustainment community (Depot) needs
- Manufacturing and maintenance processes
What can JG-PP do for you
Proven Methodology

Coordinate/facilitate project management
Advocate funding
Reduce individual participant’s costs
Reduce alternative technical risk
Assist in qualified alternative implementation

Right People, Right Place, Right Time For Decisive Action
Joint NASA/DOD P2 Needs Integration
Common Problems, Joint Solutions, Shared Efforts

Technology Pull and Technology Push
JG-PP Proven Methodology

Harmonized projects, leveraged resources
# JG-PP Projects

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<th>Project</th>
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<th>Phase</th>
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<td>Non chromate aircraft primer</td>
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<td>Low VOC topcoat &amp; primer</td>
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<tr>
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<td>VOC ballast tank coatings</td>
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<td>VOC non skid (Type I &amp; II)</td>
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<td>VOC paint med. cal. munitions</td>
<td>Three OEMs, Army, USN, OO-ALC</td>
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<td>Non chromate alum. pretreatment</td>
<td>Four OEMs, USAF, USN, Army, NASA</td>
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<td>Non chromate conversion coat</td>
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<td>Joint Org. Coatings &amp; Surf. Trmt.</td>
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<td><strong>Metal Finishing (7)</strong></td>
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<td>P&amp;W West Palm</td>
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<td>Cadmium free electroplating</td>
<td>Boeing-Seattle, Phila., St Louis</td>
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<td>Cr free - landing gear (HVOF)</td>
<td>Four OEMs, NADEPJAX/CP, OC-ALC</td>
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<td>Cr free - prop hubs (HVOF)</td>
<td>HSD, NADEPCP, WR-ALC</td>
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<td>Cr free - actuators (HVOF)</td>
<td>OO-ALC, OC-ALC, all NADEPs</td>
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<tr>
<td>Cr free - helo rotor parts (HVOF)</td>
<td>Three OEMs, NADEP-JAX, CCAD</td>
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<td>Joint Cd Alternatives Team</td>
<td>Four OEMs, USAF, USN, Army, NASA</td>
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<td><strong>Cleaning (2)</strong></td>
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<td>OC-ALC, NASA, NAVAIR, Northrop-Grumman</td>
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<td>Hand wipe prepaint cleaner</td>
<td>TBD</td>
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<td>Lead &amp; VOC free-printed circuits</td>
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<td><strong>Special Projects (1)</strong></td>
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<tr>
<td>Lead free, dry film lube-jet engines</td>
<td>Five OEMs, PEWG</td>
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| **Total Projects:** 23
**JG-PP Completed Project**

**Description:**
- Eliminate VOCs in topcoats and primers
  - Toluene, Xylene, Methyl Ethyl Ketone
- Provides a non-VOC, non-hazardous alternate material for applications using MIL-C-46168, Urethane, Camouflage, Infrared and CARC qualified

**Benefit/Impact:**
- Initial reduction 40 to 88%
- Cost avoidance - $9M in reduced contract change
- Reduce VOC emissions 100%
- Cost avoidance >$5M/Yr manufacturing
- Material cost savings of $1.20/square foot
- Eliminates masking/de masking operations.
- Labor savings for parts 3 hours
- 10 weapon systems - all services

**Milestones:**
- Project began Aug 95
- First block change in DoD Apr 96
- Second block change completed Jul 97

**Deliverables:**
- Potential Alternative Report
- Joint Test Protocol
- Joint Test Report
- Qualified Alternatives

**Costs:**
- $700K
- ROI < .3 year
Raytheon Corporate-wide SPI

Leveraging JG-PP Successes

- Former Raytheon Systems Co. (RSC) Customer Council MOU signed in Feb 00
  - Established corporate-wide Joint Test Protocol (JTP) for validating low VOC replacement topcoats & primers
  - Builds on legacy SPIs, especially legacy Texas Instruments (TI) JTP developed by JG-PP
    - Substantial VOC reduction
    - $680K DCAA audited 5 year avoidance at TI legacy plant
    - “Spin-off” SPI at Raytheon Electronic Systems, Bedford, MA provided additional $87K 5 year avoidance

- Potential for implementation at over 60 plants
• Implementation in formative stage
  – SPI mandates that each program has to be briefed on JTP and agree to its use in validating substitution candidates
  – Currently being implemented on 40 contracts at two locations: Dallas (legacy TI) and Tucson (partial implementation)
  – Tucson Cost savings/avoidances
    • Contractor estimated 5 year direct cost savings is $37K on following programs: AIM9X, AMRAAM, MAVERICK, STD MSL

Raytheon Corporate-wide SPI
Leveraging JG-PP Successes
**Boeing Aircraft And Missiles Non-Hexavalent Chromate Primers**

**Benefit/Impact:**
- Reduce chrome releases by 60% for this process
- 72% AFMC primer reduction of Cr\(^{+6}\) (7,000 lbs)
- Cost Avoidance >$250K/Yr manufacturing
- Affects 7 weapon systems - all services
- DoD depot cost avoidance $31.3M/20 yrs

**Milestones:**
- Lab testing complete Dec 1997
- Flight testing Feb 1998 - Jan 2002
  - F-15, F-18, AV-8A, T-45, Harpoon
  - Added C-17, C-130, two more F-15s
- F-16 testing primers, coordinating

**Migration:**
- NASA Columbia Space Shuttle
- Flipper doors (every other one)
- C-130

**Description:**
- Eliminate Cr\(^{+6}\) and reduce VOCs in primer used on aircraft outer mold line for F-15, C-17, F-18, T-45, Harpoon/SLAM, AV-8B
- Lockheed Martin conducting same tests on F-16, collaborative with Boeing
What has JG-PP achieved

Pioneered workable joint partnering
  - Created pragmatic, stakeholder driven 6 step method

Acquisition reform in action
  - First technical block change at Raytheon-TI
  - Results establishing performance specs

Created partnerships on 23 active projects
  - Affecting over 150 systems
  - 17 original equipment manufacturer locations/10 depots
  - Coordination with over 800 technical and business stakeholders

Created cost/benefit analyses process
  - Meets DCAA requirements, when required
Where is JG-PP going next

International Partners

• Leverage environmental technology and resources when found
  • “Engagement is warranted” Mr. Gary Vest, PADUSD(ES), JG-PP Principals’ Mtg Dec 99

• JG-PP open to International P2 partners
  • U.S. Law 10 USC 2530a(e) and SECDEF MEMO
    • Cooperative RDT&E of defense systems
    • DoD procurement of foreign technology and logistics support

• Success partnering with Canadians on High Velocity Oxygen Fuel Project through Navy
JG-PP Keys to Success

Proactive Involvement

Partnership

Technical confidence

Communication

Risk Reduction

Reduced costs

http://www.jgpp.com