

Aerospace & Defense Pb-Free Electronics Risk Management (PERM) Consortium

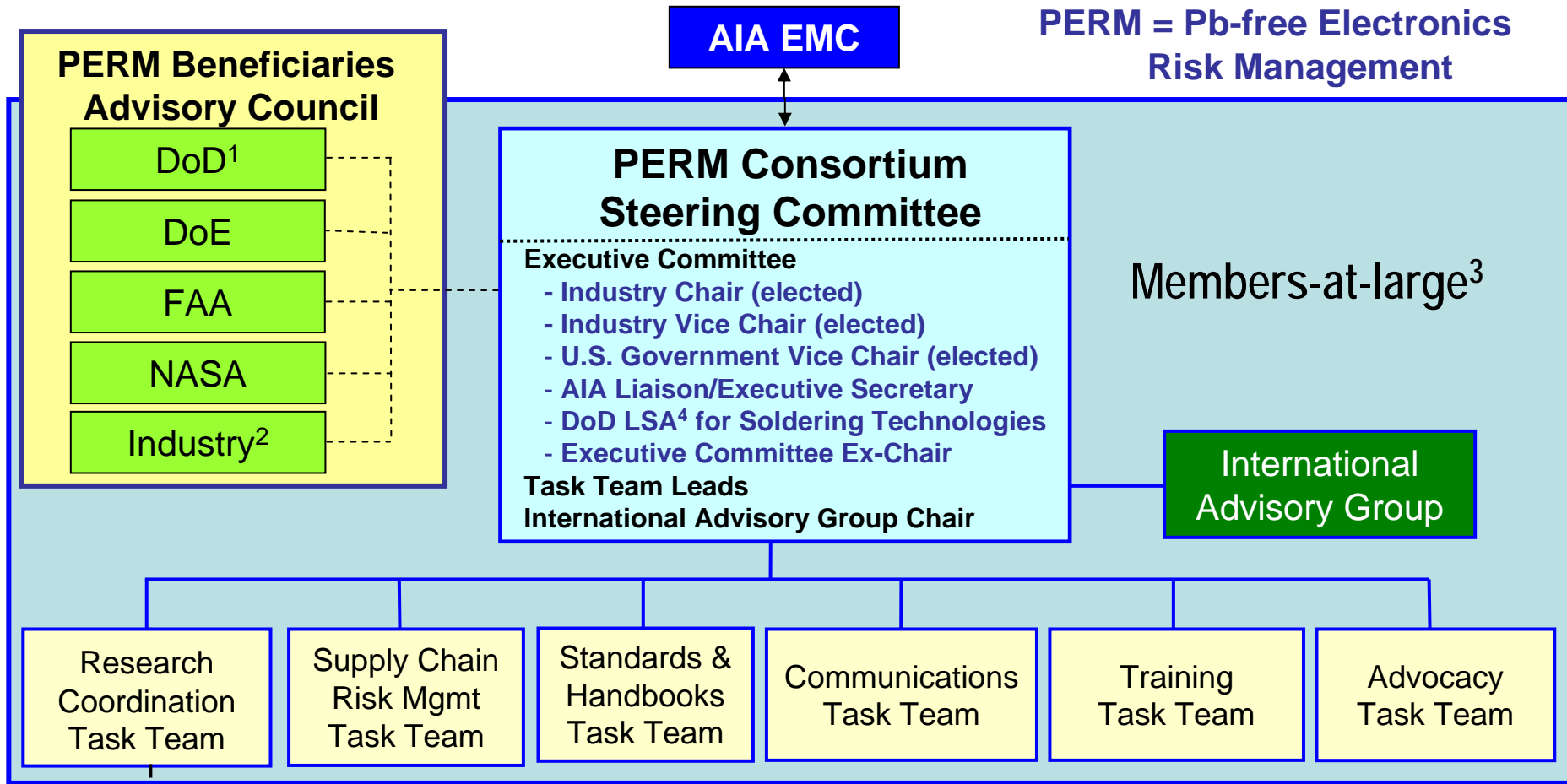
Functional Framework and Charters

DRAFT

6 September 2009

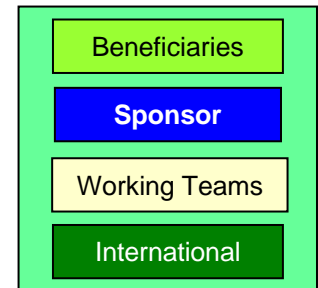
Pb-Free Is Not Free!

PERM Consortium Functional Framework



Lead-free Electronics Research Manhattan Project (Gov't Contract)

1. Membership of Senior Stakeholders determined by OSD and DoD
2. Including representatives of Industry Associations such as AIA, TechAmerica, AMC, IPC, etc.
3. Any individual participant (Government, industry and academia) in PERM meetings and consensus process; Integrated Membership from prior LEAP WG and ELF IPT
4. LSA = Lead Standardization Activity



Pb-Free Is Not Free!

PERM Consortium Steering Committee Leadership Team

- **PERM Consortium Executive Committee**

- Industry Chair
- Industry Vice Chair
- U.S. Government Vice Chair
- DoD LSA¹ for Soldering Technologies
- AIA Liaison/Executive Secretary
- Steering/Executive Committee Ex-Chair²

- **Task Teams**

- Research Coordination
- Supply Chain Risk Management
- Standards & Handbooks
- Communications
- Training
- Advocacy

- **International Advisory Group
Chair/Vice Chair**

Members

Lloyd Condra (Interim)
Ed Morris (Interim)
Vance Anderson (Interim)
Gary Latta
Rusty Rentsch
Vacant

Leads/Deputy Leads

Stephen Meschter/Mick Miller
Bill Procarione/Mark Stibitz
Gary Latta/Dan Foster
Joe Zaccari/Jim Carrigan
Tim Kalt/Rick Gramlin
David Burdick/Bill Procarione

Bob Gregory/Dave Humphrey

¹ LSA = Lead Standardization Activity

² Non-Voting Mentor

Pb-Free Electronics Risk Management (PERM) Consortium Steering Committee

CHARTER:

- The PERM Consortium provides overarching leadership and coordination of Pb-free electronics risk management activities for the government and industry, aerospace and defense community
- The Steering Committee is responsible for overall strategic direction and execution of the PERM Consortium's activities

SCOPE/EXPECTED RESULT:

- Responsible for providing a long-term overall aerospace and defense strategy and tactics to effectively deal with the Pb-free electronics issues
- Expected result: A coordinated risk management approach for the industry transition to Pb-free electronics
- Desired end state: As a minimum, lead-free technology must maintain the performance, reliability, and safety characteristics required in aerospace-defense electronics.

PERM Consortium Steering Committee Tasks/Business Plan

- **Sponsorship:**

- The PERM Consortium Steering Committee's oversight is provided by the AIA Engineering Management Committee (EMC), reporting to the AIA Technical Operations Council (TOC)

- **Leadership:**

- The Steering Committee is led by an Executive Committee that is responsible for:
 - Leadership of the Steering Committee
 - Planning and coordinating PERM Consortium face-to-face meetings and teleconferences
 - Maintaining and coordinating with the PERM Beneficiaries Advisory Council, chaired by the Executive Committee Chair
 - Interfacing with the AIA EMC

- **Membership:**

- PERM Consortium Executive Committee
 - Industry Chair (Senior member of the Aerospace and Defense industry)
 - Industry Vice-chair
 - U.S. Government Vice-chair
 - DoD Lead Standardization Activity (LSA) for Soldering Technologies
 - AIA Liaison/Executive Secretary
 - Steering/Executive Committee Ex-Chair (Non-Voting Mentor)
- Task Team Leads (Deputy Leads may attend for continuity)
- International Advisory Group Chair (Vice Chair may attend for continuity)

Aerospace & Defense Pb-Free Electronics Risk Management (PERM) Consortium

DELIVERABLES:

- Develop, maintain and execute a strategic and tactical plan to effectively deal with the Pb-free electronics risks, addressing:
 1. Overarching Executive Leadership and Organizational Framework
 2. Communications (both good and bad news)
 3. Research Coordination
 4. Standards and Handbooks with Timely Updates
 5. Training Materials and Courses
 6. Advocacy (promote good legislation and block the bad)
 7. International Coordination
 8. Supply Chain Risk Management
- All-encompassing national and international coordination network to share plans and progress between the numerous working groups, teams, and associations working the issues
- Quarterly Progress Reports

Aerospace & Defense Pb-Free Electronics Risk Management (PERM) Consortium

2009 ACTIONABLE DELIVERABLES:

1. Start Date for PERM Consortium and Task Teams – 1Q CY09
2. Pb-free Electronics Risk Management Draft Strategic Plan – 4Q CY09
3. Quarterly Progress Reports – As Required

Aerospace & Defense Pb-Free Electronics Risk Management (PERM) Consortium

EXTERNAL INTERFACES:

- AIA EMC and TOC
- DoD Stakeholders
- FAA
- NASA
- ESA, EASA, & Other International Governmental Organizations
- Major Electronics Industry Members and Associations
- Other Affected Parties

Aerospace & Defense Pb-Free Electronics Risk Management (PERM) Consortium

BENEFICIARIES:

- US Government Stakeholders (DoD (including Program Offices & Depots/Repair Centers), FAA, NASA, DHS)
- International Government Stakeholders (NATO, Ministries of Defense (MODs), European Space Agency (ESA), European Aviation Safety Agency (EASA), JAXA, Civil Aviation Authority (EU), etc.)
- Aerospace & Defense Primes and Suppliers
- Avionics & Defense OEMs and their Suppliers
- Aircraft and Airline Operators (Includes Commercial Maintenance, Repair, and Overhaul (MRO) Community)
- National Labs, Universities and DoD Labs (AFRL, ARL, etc.) engaged in Pb-free electronics research

PERM Consortium

Beneficiaries Advisory Council

CHARTER:

- The purpose of the advisory council is to identify needs and issues on behalf of the beneficiaries and serve as liaison on behalf of the perm consortium to their organizations

SCOPE/EXPECTED RESULT:

- Responsible for coordination between the PERM Consortium and the participating Beneficiaries Advisory Council organizations, representing their respective organizations
- Expected result: A coordinated risk management approach for the government & industry transition to Pb-free electronics
- Desired end state: As a minimum, lead-free technology must maintain the performance, reliability, and safety characteristics required in aerospace-defense electronics

PERM Consortium Beneficiaries Advisory Council Tasks/Business Plan

- **Sponsorship:**

- The PERM Consortium Beneficiaries Advisory Council oversight is provided by the PERM Consortium Executive Committee

- **Leadership:**

- The Beneficiaries Advisory Council is chaired by the Chair of the Executive Committee
- The Executive Committee is responsible for maintaining and coordinating with the PERM Beneficiaries Advisory Council

- **Membership:**

- PERM Consortium Executive Committee
- Representatives from the DoD, DoE, NASA, FAA, and relevant Industry associations
- DoD Membership will be comprised of appropriate OSD, DoD Agencies, and Service Organizations
- Each organization will appoint a primary representative and an alternate

International Advisory Group Charter

- **Objective/Goal**

Establish and convene an International Advisory Group to define and agree on clear and realistic goals in concert with the PERM Steering Committee that will assure ongoing international cooperation on technical, implementation and verification issues related to lead-free transition

- **Scope/Expected Result**

- This group should include members from interested countries and organizations who are working to manage the common risks faced by the aerospace industry
- It will cultivate support and help facilitate the following and similar cooperative activities
 - Release of IEC standards and handbooks that manage and reduce the risks of lead-free changes
 - Identification and documentation of gaps
 - Determination of common goals and concerns
- They should also track and assess related and emergent regulations and activities world- wide that impact or may impact aerospace stakeholders during the lead-free transition
- Note: The international rules, limits and regulations regarding cooperation must be followed by the committee as governed and agreed to by the organization from which they come

Research Coordination Task Team Charter

- **Object/Goal**

- Define, develop, and execute a systematic, coordinated plan to provide the necessary research results to address all the critical needs of the military/aerospace industry with regard to the global transition to lead-free electronics

- **Scope/Expected Results**

- This is the top-level research coordination activity for the government and industry, aerospace and defense community with respect to lead-free electronics and will coordinate all research in this area
 - The coordination plan includes the development and maintenance of a research roadmap and funding plans
 - The focus of the research is to provide answers to key technical questions, as well as methods, processes, and consensus standards for use by the military/aerospace industry
 - The research may include development of alternate materials and processes
 - The research is not expected to provide a single solution set that is applicable to all applications; rather it will provide a set of solutions, with guidance to their applicability to given systems
 - The specific research projects on the roadmap may include projects in the proposed “Manhattan Project,” as well as other related research.
- Serves as the Technology Review Board Group for the PERM Consortium

Supply Chain Risk Management Task Team Charter

- **Objective/Goal**

- Actionable recommendations that can achieve more commonality in requirements and processes at the Electronics OEM level
- A reduced probability of unknowingly accepting non-compliant electronic components and subassemblies

- **Scope/Expected Results**

- Action recommendations for optimizing the cost / reliability risk trade across the product and requirement boundaries along the supply chain
- Evaluation of and recommendations for action approaches that will convey and promote the needs of high reliability, long service life users to the materials and components end of the electronics supply chain

Communications Task Team Charter

- **Objective/Goal**

- The aerospace and defense community needs an efficient mechanism to disseminate information about Pb-free electronics
- The information types include new issues/problems caused by Pb-free electronics (i.e., bad news), new research findings and solutions (i.e., good news), funding opportunities, and international legislation activities on the subject
- Communication types cover all of the options, from websites, to teleconferences, to face-to-face meetings and conferences

Communications Task Team Charter (Cont'd)

- **Scope/Expected Results**

- Share information from the Aerospace & Defense Pb-free Electronics Risk Management (PERM) Steering Committee, Advisors, and Task Teams:
 - Provide conduit for wide data dissemination to the military and aerospace electronic industries
 - Provide interface to users (conference, meeting, etc)
 - Provide interface to military and aerospace electronic industries
- The result of this effort is an efficient exchange of information regarding the use and management of Pb-free electronics in the military and aerospace industry.
- The result of this effort will improve/maintain the cost effectiveness, reliability, safety, supportability, and performance of military and aerospace electronics systems.

Standards & Handbooks Task Team Charter

- **Objective/Goal**

- Ensure that the Aerospace and Defense community has body of knowledge in the form of standards, handbooks, technical manuals, and other technical and administrative documentation from which to make informed decisions with respect to Pb-free electronics in order to control, limit, and/or manage the risks inherent with Pb-free electronics and the other unintended consequences of the global commercial transition to Pb-free electronics

- **Scope/Expected Results**

- Manage and/or participate in development of national and international standards for Pb-free electronics
- Facilitate coordination of draft documents in cooperation with standards bodies to ensure both government and private sector requirements are met

Training Working Task Team Charter

- **Objective/Goals**

- Provide lead-free awareness training for all DoD acquisition and technical agent organizations as well as Defense/Aerospace Industry
- Provide applicable training as required regarding handling, management, and implementation of lead-free technology

- **Scope/Expected Results**

- Lead-Free Technology Awareness training throughout DoD, especially all DoD program offices (PEOs, PMS, etc.)
- Comprehensive repository for all training and knowledge resources (leverage existing sites/locations)
 - This effort may consist of embellishing the facilitation of existing resources
- Maintain periodic updates of training materials/events; Guard against overlap

Advocacy Task Team Charter

- **Objective/Goal**

- Track US and international legislation and respond with the consensus voice of the US aerospace and defense industry interests.
 - Develop relationships with ally organizations such as AIA, GEIA, GAMA, and others
 - Team will be a pro-active voice and provide recommendations to legislative groups

- **Scope/Expected Result**

- Track, evaluate, and report on United States and international legislation regarding lead-free electronics..
- Present a unified U.S. military and aerospace position to appropriate legislative groups
- Result of effort is to promote the passage of positive legislation regarding the use of Pb-free electronics and block adverse legislation that would increase the risks to the aerospace and defense industry and its customers.
- Result of this effort will reduce risk and maintain the cost effectiveness, reliability, safety, supportability, and performance of military and aerospace electronics systems