



Fax/Email

Joint Council on Aging Aircraft
Joint Group on Pollution Prevention



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*Lead-Free Solder Working Group
Teleconference
January 23, 2004*

Comments:

Attached please find the January 23, 2004 Lead-Free Solder Working Group teleconference minutes. Please further distribute as necessary.

MEMORANDUM FOR RECORD

Subject: Teleconference Summary and Minutes – January 23, 2004

Next Teleconference: February 5, 2004 11:00 a.m. EST

Minutes:

Decisions arrived at by this meeting's participants → Recommendations for group-at-large. Meeting led by Kurt Kessel, Project Integrator.

1. Reviews Attachments

Solder Summary Table. Lety Campuzano-Contreras is working with Doug McBright to obtain the solder wire at no charge. Doug is working with Indium to get a contract for the wire, so that the wire can be supplied at no cost to the project. No final word at this time. Indium has a ten day turn-around once a purchase order is received. Dave Hillman has a draft purchase order in place if the wire cannot be obtained from the supplier at no cost. Lety confirmed that she has received components from Dave Hillman. Dave will continue to ship components to Lety.

2. Component Procurement. The Quad Flat Packs from Practical has a delivery date of 6 Feb 04. The Chip Scale Packages (CSPs) are in various stages of delivery. Dave Hillman has some of the CSPs in his possession. Dave has forwarded some of the CSPs to Lety Campuzano-Contreras and more are on their way to Dave from Practical. The only issue with Practical is that the TSOP-II components were to be daisy chained even (1-2, 3-4, 5-6, etc.). Components from practical were received without wire bonds from 13-14 and 37-38. This location is right at the center of the part. Dave Hillman is working with Practical to check the feasibility of having them correct the problem. Worst case is that we will have to hand solder, make a solder bridge at the two locations, approximately 400 joints. Dave estimated that this would encompass a days work (approximately 8 hours). Dave still has not received a status on the hybrids from Solitron. Based on the current situation, the hybrids and LCCs will have to be tinned in two separate batches. Dave Hillman is working to confirm this with Corfin Industries. By tinning the components in separate batches the LCCs can be sent on to Lety Campuzano-Contreras without having to wait for the hybrids. For scheduling purposes, Lety Campuzano-Contreras should have most of the components (except hybrids and flat packs) by the first week in February.

3. Air Force Funding. ITB has asked for quotes in advance to get the mechanism in place once to begin testing mid-May in accordance with the current schedule. ITB is not looking for a final quote but rather an updated educated guess as to your final costs. These numbers will be used to respond to the RFP. The issue of the Request for Proposal (RFP) was delayed from 13 January to 23 January. The response date has been moved back from 27 January to 20 February. Based on this schedule the contract should be in hand mid-March. A new schedule follows:

- a. 23 Jan RFP is sent out

- b. 20 Feb bids due back to GSA
 - c. mid-March contract awarded
 - d. mid-May start testing as per schedule
4. Testing.
- a. Discussion was initiated as to what type of follow-on testing would be required if funding was available. One area of concern from AFRL is that the test boards are too broad and that end item circuit card assemblies need to be tested. The combined Environmental Test was dropped due to lack of funding. If a funding plus-up comes along, an update quote is needed. Joe Felty will check into the cost. Joe suggested the new testing be done with fielded non-mission critical equipment. Denny suggested using non-critical flight systems on board an aircraft. This would also allow for plenty of shake, rattle, and roll. Follow-on ideas will be presented to the government, but before that more discussion needs to take place for both short term and long term ideas. Jim Blanche just received the request for follow-on testing and will be sending more testing ideas.
 - b. Currently, in the SOW and the JTP, “an x-ray inspection of solder joints on each test vehicle shall be documented prior to test.” It was suggested to eliminate this sentence because as it reads it sounds like we want x-ray inspections on all solder joints. After some discussion it was agreed the x-ray inspection would be done on a case-by-case basis. X-ray is a tool that is not applied 100 percent to all test vehicles.
5. Future Meeting
- a. 5 February 2004, larger group telecon, 11:00 a.m. EST
 - b. 24 Feb 04, APEX Conference, face-to-face meeting. Convention Center in Room 206A from 6:00 PM to 8:00 PM, dinner at a local restaurant following the meeting.
 - c. 17 February 2004, 11:00 A.M. EST
 - d. Board building/kickoff at Boeing Irving Mar/Apr timeframe depending on when Lety Campuzano-Contreras is ready for us.

Attachment 1. Action Item Status

Open Action Items

LFS.04.01.10

Date Due: 2/5/2004

Responsibility: ITB, Inc.

Required Action: Contact Dave Locker requesting his review of the CTE Curves produced by Dave Hillman to ensure that these curves will work for his modeling and analysis procedures.

Comments: Mr. Kessel sent an email to Mr. Locker on 1/23/2004.

LFS.04.01.09

Date Due: 1/26/2004

Responsibility: Joe Felty

Required Action: Deliver a quote for the Combined Environmental Test to Dennis Jarvi

Comments:

LFS.04.01.08

Date Due: 2/5/2004

Responsibility: Dave Hillman

Required Action: Contact Practical on the on the wire bonding issue with regard to daisy chained components

Comments:

LFS.04.01.07

Date Due: 2/5/2004

Responsibility: Brian Greene

Required Action: Contact CALCE for support

Comments:

LFS.04.01.06

Date Due: 1/23/2004

Responsibility: Brian Greene

Required Action: Distribute mechanical shock testing procedures once Lee Whiteman has provided them to Brian.

Comments: Lee Whiteman is working this item

LFS.04.01.05 **CLOSED**

Date Due: 1/23/2004

Responsibility: Dave Hillman

Required Action: Contact APEX Conference personnel to determine the possibility of obtaining a room later in the day for our face-to-face meeting

Comments: 1/15/04- The following has been scheduled for a face-to-face meeting being held at the APEX conference. Tuesday, February 24, at the Convention Center in Room 206A from 6:00 PM to 8:00 PM, dinner at a local restaurant following the meeting.

LFS.04.01.04

Date Due: 1/23/2004

Responsibility: Lety Campuzano-Contreras

Required Action: Determine the manufacturing lead time for the SnAgCuBi wire.

Comments: Awaiting response from Doug McBright before finalization.

LFS.04.01.03

Date Due: 1/23/2004

Responsibility: Dave Hillman

Required Action: Provide Lety Campuzano-Contreras, Lee Whiteman, and Tom Woodrow with boards. Lety, Lee and Tom will provide a FedEx-able address to David Hillman for shipping purposes.

Comments: Addresses have been received. Waiting for the delivery of the boards.

LFS.04.01.02

Date Due: 1/23/2004

Responsibility: Dave Hillman

Required Action: Determine additional cost associated with two tinning assemblies.

Comments:

LFS.04.01.01

Date Due: 1/23/2004

Responsibility: Dave Hillman

Required Action: Order the BGA Rework stencils for the test boards, electro-migration boards, and SIR boards.

Comments: In work

LFS.03.10.07

Date Due: 2/05/2004

Responsibility: ITB

Required Action: Solicit stakeholder interest in attending a tour of Boeing-Irving's assembly of the test vehicles, approximately 40 persons, March/April timeframe.

Comments: Inputs received by B.Greene

LFS.03.10.05

Date Due: 01/23/2004

Responsibility: Lety Campuzano-Contreras

Required Action: Report of results of Kaizen no-clean flux cleaning study

Comments: 01/14/04 – All solder pastes have been received. Paperwork has been initiated to ship 200 grams of solder paste to Kaizen

LFS.03.07.12 **CLOSED**

Date Due: 08/13/2003

Responsibility: Brian Greene (NASA AP2/ITB)

Required Action: (a) Contact Dave Locker, AMCOM, to ask if he could do some simple Coffin-Manson modeling, perhaps for just one component type (e.g., 44-pin or 20-pin LCCs) for inclusion in the project's Joint Test Report, and then (b) Contact Paul Vianco, Sandia Labs, to look for synergy with Sandia's prior LCC data

Comments: 12/1/03 – Brian Greene to check into modeling that CALCE may be interested in doing using JCAA/JG-PP LFS test data.

08/05/03 - Dave Locker indicated that he could do some simple Coffin-Manson modeling for inclusion in the project's Joint Test Report