MEMORANDUM FOR RECORD 2 January 2003

SUBJECT: JG-PP Portable Laser Coating Removal System (PLCRS) Teleconference, 27 Nov 02

SUMMARY: After taking roll call, Mr. Mongelli gave a status update on the project. Training was conducted while visiting Germany. Training was also conducted at Wright-Patterson by a Diode laser technician from Germany. Some testing has been conducted, but the project is 8 to 9 months behind schedule. Discussions were held concerning FLASHJET and the common difficulty of removing CARC. A teleconference will be scheduled towards the end of Jan 03 to discuss any available testing results and to give a project update.

MINUTES:

1. Jerry Mongelli began the teleconference by taking roll call. A list of attendees is attached. Jerry explained that the intent of this teleconference was to give a status update on the project.

2. Mr. Mongelli began by giving a recap of the four laser systems being tested. There are two Nd:YAG, one Diode, and one CO_2 laser. The CO_2 laser is the SLCR from Germany. In his opinion, the first series of panels stripped with the CO_2 laser were not all that great. A bad transformer was found to be the problem. After repairs were made on the transformer, a set of aluminum panels were stripped. Jack Coate, CTIO, inspected the panels then reported there were no indications to cause worry. Jerry stated they were going to start the JTP testing, stripping both the aluminum and steel panels with the CO_2 laser system. Discussion followed concerning the slow removal of CARC. It has been found to be extremely difficult to remove with the CO_2 laser. The Diode and Nd:YAG laser systems will be checked out on CARC removal as well.

3. The Nd:YAG laser the team is most comfortable with is from Clean Laser. It is the smallest of the units they have for testing. Randy Straw and Jerry were trained on the Clean Laser system in Germany for a week (trip report attached). They learned how to assemble, disassemble, and operate the equipment. Pete Hall and Mary Hayes have been briefed on the same procedures. They have since stripped a series of aluminum and steel panels. They haven't touched the CARC yet, but they have done the polyurethane coatings, both Alclad and clad bare, and will be sending the panels over to CTIO for some initial evaluations. In the JTP, the panels called out are 12"X12". They used 15mmX15mm areas for time trials. On 3mil coatings, they were removed in about 5 minutes. They are getting the coatings off with no indication of visual damage on the alloys, but CTIO is testing. They will proceed with the Nd:YAG laser.

4. A Diode laser technician is coming to Wright-Patterson AFB on 2 Dec 02 for a 1-week visit. He will teach the team both the 808 and 904 wave lengths and how to use the

Diode laser equipment. They will be conducting some trials with the Diode laser next week. In a couple of weeks after that, they will be working on the Quantel Nd:YAG laser system. Nothing has been done with the Quantel system since the meeting held 27-29 Aug. Presently, it looks like the JTP testing is 8 or 9 months behind.

5. Discussion followed concerning color recognition. Jerry explained to Jarrod Staggs (Boeing) that to the best of his knowledge, the laser does not have an issue with color. An aluminum panel will reflect back, but there doesn't seem to be a color issue. Jarrod stated he knew the wave lengths were pretty much outside the visible region on all four of the laser systems, but there was a chance of them absorbing. Jerry stated that the darker colors will absorb. There was a difference between the 4130 steel and the aluminum with the same settings. This is something to look at as we go through the testing.

6. Another issue was the FLASHJET technology. The team did the comparison as asked by Larry Triplett, Boeing. They went to St Louis, MO, and carried representative panels, to include CARC. FLASHJET did okay stripping the coatings. It was extremely slow and does have difficulty removing CARC and the new primer is white which really gave FLASHJET some problems. The tested panels are available for future observation and comparison. As far as time is concerned, the hand held lasers are faster but cannot do as wide an area. The FLASHJET is seen as a seam-to-seam approach whereas the hand held would do all the taped off and small areas. That is the best assessment Jerry could give.

7. Jerry introduced everyone to Dan Keeton as a new member of the Laser Hardened Material Evaluation Lab (LHMEL) with Pete Hall. He has been added on as a laser technician to help get the project back on schedule.

8. Larry Triplett asked for the status of some specimens he saw earlier while at Wright-Patterson for a C17 meeting. Jack Coate reported the residual stress measurements on the panels had been passed on to Stefan Susta and Randy. Jack stated they were initially going to make a blank statement that if the panels are warped, they have residual stresses and a higher degree of warp would result in a higher degree of residual stresses. Then they found an aluminum panel that was warped that had virtually no stresses, so they had to back off that initial statement. But, he would say that if the panels come out flat, they would have no stresses, so he saw no need to send any flat panels for testing. Jerry replied that there is a slight bow in the .0025 aluminum on all the panels, but he saw the same result from the FLASHJET, so he wasn't getting nervous. He did send the panels to CTIO to check out. Jerry told Larry he would send the report to Boeing.

9. A teleconference will be scheduled towards the end of Jan 03 to discuss any available testing results and to give an update.

Minutes reviewed and approved by
Jerry Mongelli, Project Manager, 2 Jan 03.