04-APR-2002-40WC-E2 2 January 21, 2003 also claimed that the parts on list are structural parts that are integral parts of another assembly Attachments 1) E-mail from the RA to esponse to the Refuert A), 1/15/03, and and RA (B), 1/16/03 2) Listing of 737-NG P/Ns that was attached to Attachment 1-A, 1/14/03 - Nufrued
3) 14 CFR 121.704 SDRs (structural), undated 4) E-mail from to the RA, 1/21/03 - Referred Prepared by SA fichita POD APF This document is the property of the Depart Acid at Defense Inspector General and is on Joan to your deency. Contents may not be disclosed to any party under investigation por may this document he distributed outside me receiving agency without the specific prior authorization of the Assistant Inspector General for Investigations. "FOR OFFICATION" 71

The problems with the 141A3113-901 (Boeing Engineering Part 141A3113-1) bear straps was discovered in the latter part of 1998. When the 141A3111 bonded assembly had shy edge margin (EM) on the upper forward edge of the 141A3113-1 bear strap doubler, (Ref. Engineering drawing 141A3113, sheet 1, Revision "A", zone D3 and D4 between stations (sta) 280 and 320, and water line (WL) 260 and 300. The 141A3111 bond assemblics go to the next higher assembly 141A3110; (Ref. 141A3111-5 went into the 141A3110-13 upper assembly). The Advanced Technology Assembly (ATA) holes are drilled into the 141A3111 assemblies after the lay-up process at a Numerical Controlled (NC) operation. ATA holes B96 and B36 had shy EM on the 141A3113-1 bear strap, (Ref. Engr Dwg 141A3111, sheet 7, revision B, zone C9. The fastener pattern common to (CT) the upper/forward edge of the bear strap as shown on assembly drawing 141A3110, sheet 19, revision new, zone C9 and D9 were also mis located to provide for the shy EM on the 141A3113 bear strap.

Assemblies with shy EM were acceptable on a green line, which is an Engineering workaround to rework as defined by Engineering. This was done on the assemblies with up to .150 shy EM. There were 24 (ea) 141A3113-1 bear straps that were rejected with a shy EM of .300 from AHF Ducommun, (Ref Non-conformance record (NCR) N9060006459, dated 05/04/1999, Legacy ID 06459WL. These 24 received a scrap disposition. There was also an additional 24 (ea) 141A3113-1 rejected on NCR N9060009321; dated 09/29/1999, Legacy ID 09321WL, from Advance Machine & Stretch form (AMSI). The time frame would have been between 1995 and 05-04-1999.

There are several areas of concern with the fail-safe Chords that are produced by AHF Ducommun for The Boeing Company. The part numbers include but are not limited to the following, 143A1201, 146A1266, 146A1286, 147A1006, 147A1007 and 147A1027 (Ref Exhibit Book for a complete list of details). Our concerns do not only apply to the Fail-safe chords or the Bear-straps, but to all detail parts that are produced without proper inspection to the engineering requirements. This is what the team believes and material damage is the major concerns.

Per engineering parts list (PL) on 143A1201, hole size and locations were identified as ATA locations. The GA note states "The basis for the ATA hole and hole size tolerances for this part are as follows: Process capability of .014 Dia features relatingtrue position and .014 pattern-locating true position. Temperature compensation and/or control to 68 degrees F. process capability and thermal expansion effects are additive. The two factors added together shall not exceed the drawing specified tolerance. Final hole size when the temporary fastener is removed is per BAC 5004. Final hole size clean up based on removal accuracy of temporary fastener +/- .008 inch.

The process and tooling that the audit team witnessed while at AHF Ducommun would not be able to hold and maintain the ATA requirements. Boeing procedures and documents were also violated, which promoted manufacturing of defective details. Boeing Document D33200-1 (Boeings Suppliers Tooling Document) and D32042-3 (Tooling Fabrication of Blocks.

ATTCH 1

271 West 3rd Street, Suite 4020 Wichita, Kansas 67202-1202

Voice: 316-265 E-mail: @dodig.osd.mil Cellular: 316-204



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04-APR-2002-40WC-E2

June 10, 2002

BOEING COMMERCIAL AIRPLANE GROUP 3801 S. Oliver Wichita, KS 67210

DUCOMMUN, INC.

111 W. Ocean Beach Blvd., Suite 900 Long Beach, CA 90802

THE INFORMATION CONTAINED HEREIN WAS DERIVED FROM A <u>QUI</u> <u>TAM</u> COMPLAINT THAT REMAINS UNDER SEAL BY ORDER OF THE U.S. DISTRICT COURT. DISSEMINATION IS RESTRICTED.

SPECIAL INTEREST CASE TOP 100 DOD CONTRACTOR QUI TAM NO. 02-2107-KHV, DISTRICT OF KANSAS

CASE SUMMARY: On March 2, 2002, attorneys for four *qui tam* relators filed a complaint against The Boeing Company (Boeing), Chicago, IL and Ducommun, Inc., Long Beach, CA, alleging numerous violations of the Federal Civil False Claims Act (31 USC, Sections 3729 et seq.).

The complaint states that from approximately 1994 to the present, Ducommun sold innumerable nonconforming parts to numerous Boeing subsidiaries, including Boeing Commercial Airplane Group (Boeing CAG), Wichita, KS (relator's employer). The parts listed are structural components used on aircraft airframes and fuselages. Each Boeing aircraft contains over 100 Ducommun parts, most of which cannot be inspected by noninvasive means. Reportedly, Boeing has identified all of these parts as "flight critical," meaning they are essential to the airworthiness of the aircraft. No failures of these components were noted in the complaint.

The Ducommun parts are installed on Boeing aircraft, including the 737, 747, 757, 767, 777, C=17, F=22, C=130, F=15, F=16, F/A=18 and CH=47D. These aircraft, which are built by Boeing plants in Tulsa, OK, St. Louis, MO, Macon, GA, Long Beach, CA and

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June 10, 2002

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Wichita, KS, were sold to commercial as well as U.S. military and Foreign Military Sales

In 1999 and 2000, the realtors were members of audit teams that visited Ducommun. These teams found numerous serious manufacturing nonconformances. The teams also discovered that Ducommun had no Statistical Process Control data (which Boeing audits claimed were available) and that they had falsified non-destructive testing Ducommun fold one of the relators that Ducommun routinely omitted required inspections and that Ducommun management refused to correct quality problems.

The team's published reports and briefings to Boeing CAG management were allegedly ignored because the revocation of Ducommun's Delegated Source Inspection would result in Boeing CAG having to inspect incoming Ducommun parts. As Boeing CAG was arguably aware of the Ducommun quality violations even prior to the team's audits, all certifications by that company to the U.S. contain false statements as all aircraft contain undisclosed nonconforming parts. To date, the damages to the Government cannot be determined.

June 10, 2002, Update: The relators have been interviewed on two occasions and have provided detailed information regarding the "bear straps" and "chords". manufactured by Ducommun and used on Boeing CAG's 737-NG aircraft. The civilian version of this aircraft is the C-40A (Navy) and C-40B (Air Force). All information has been provided to the Federal Aviation Administration that has agreed to inspect a commercial fuselage at Boeing CAG to determine if the Duccomun parts are defective and/or nonconforming. Currently, no C-40A or C-40B fuselages are available for

Wichita POD

Assistant Inspector General for Investigations.

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04-APR-2002-40WC-E2

July 10, 2002

BOEING COMMERCIAL AIRPLANE GROUP

DUCOMMUN, INC. Long Beach, CA

RECEIPT OF INFORMATION RE DUCOMMUN PARTS FROM THE FAA: On July 10, 2002, the reporting agent received an electronic mail message from

Angeles Aircraft Certification Office (ACO), Lakewood, CA (562-627 This e-mail forwarded several messages between the seattle ACO (Attachment 1), as well as a listing of parts produced by Ducommun, Inc. for the 737, 757 and 777 aircraft manufactured by Boeing Commercial Airplane Group (Attachment 2) and a sub-listing of the parts that appear to be the most critical (Attachment 3).

Attachments

Prepared by SA

... CLASSIFICATIONS

- 1) E-mail to the RA from minimum (includes correspondence with the FAA, Seattle ACO), 7/10/02
- 2) Spreadsheet (SUparts.xls), undated
- 3) Spreadsheet (Suparissea xis), undated

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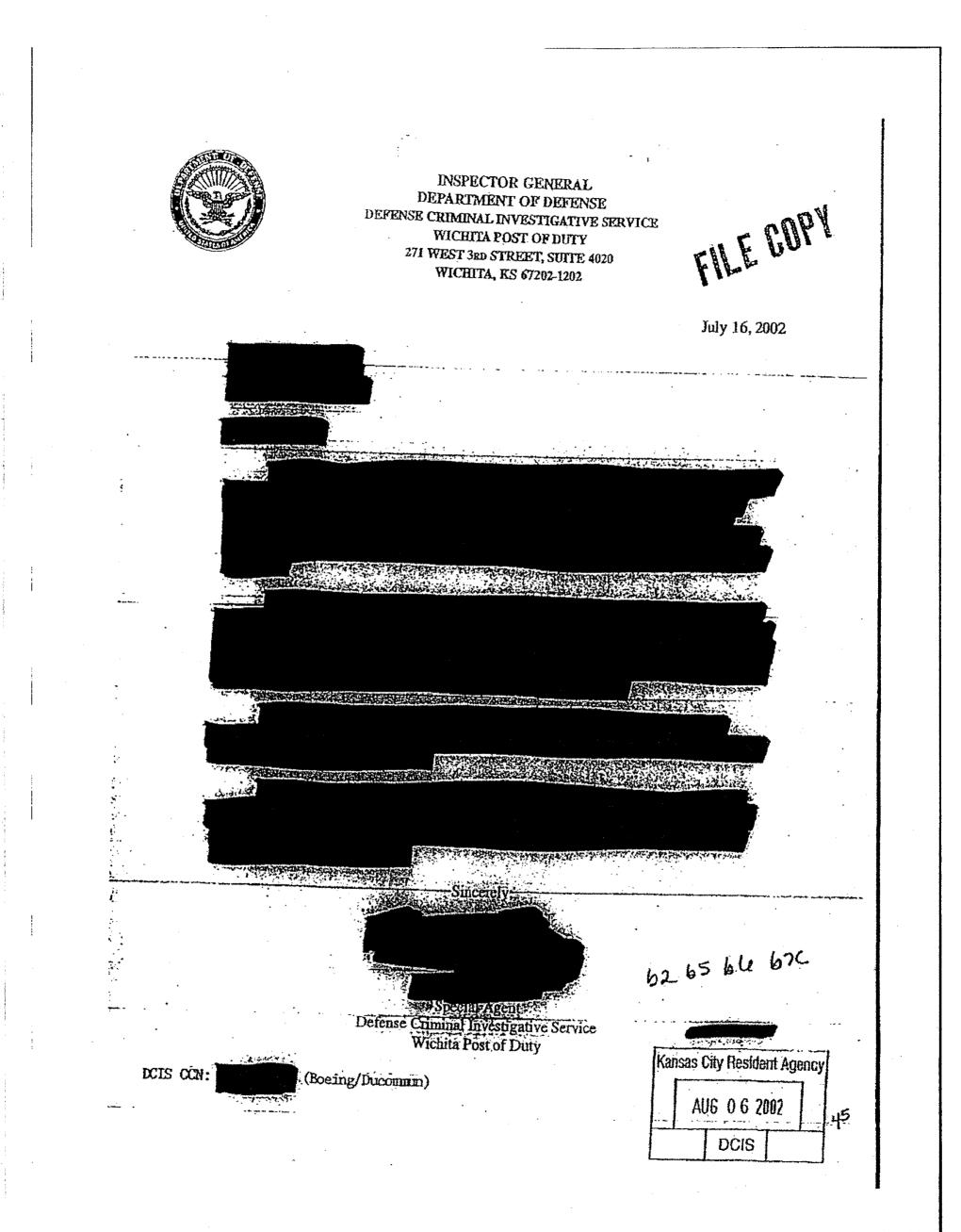
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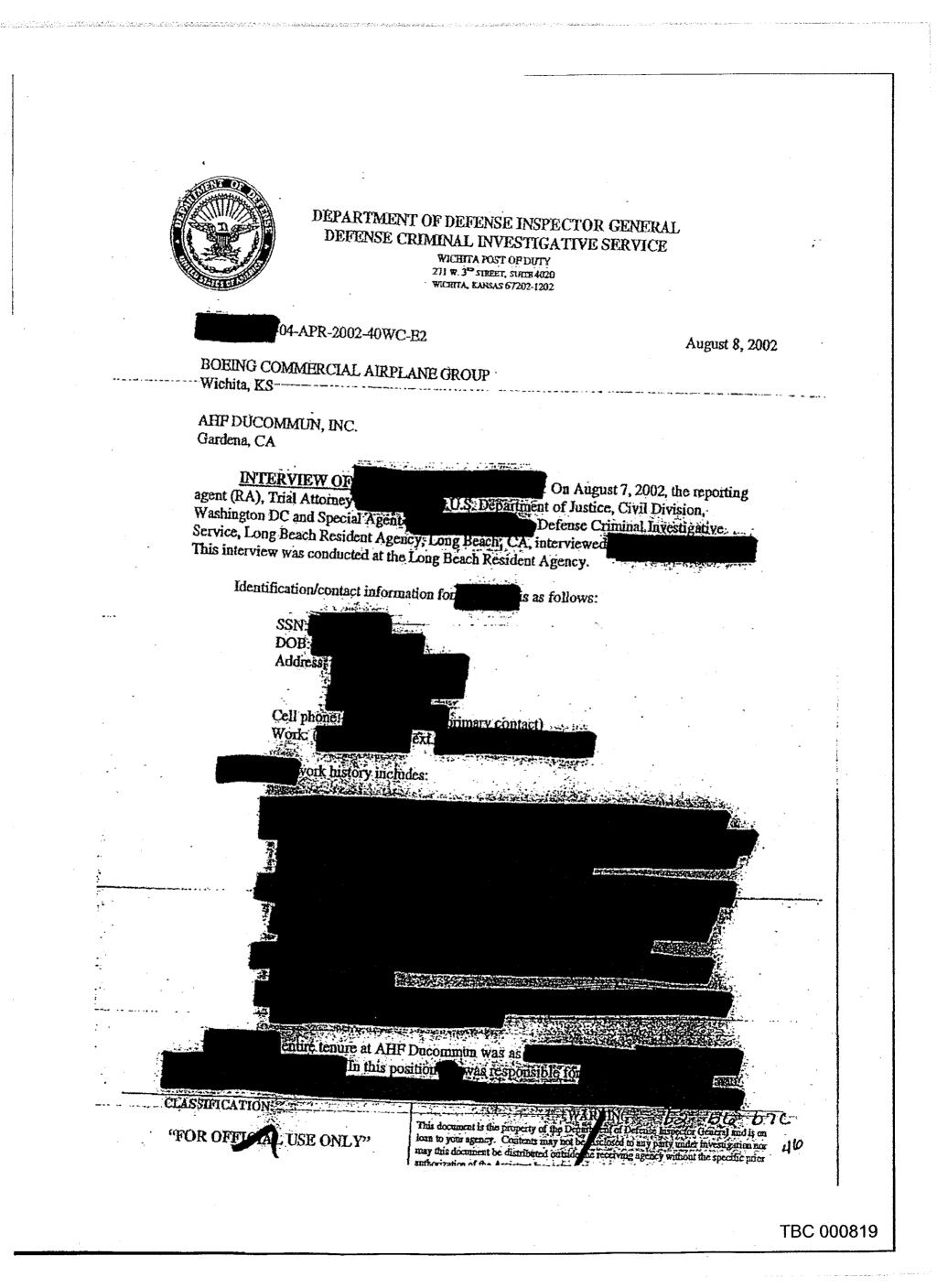
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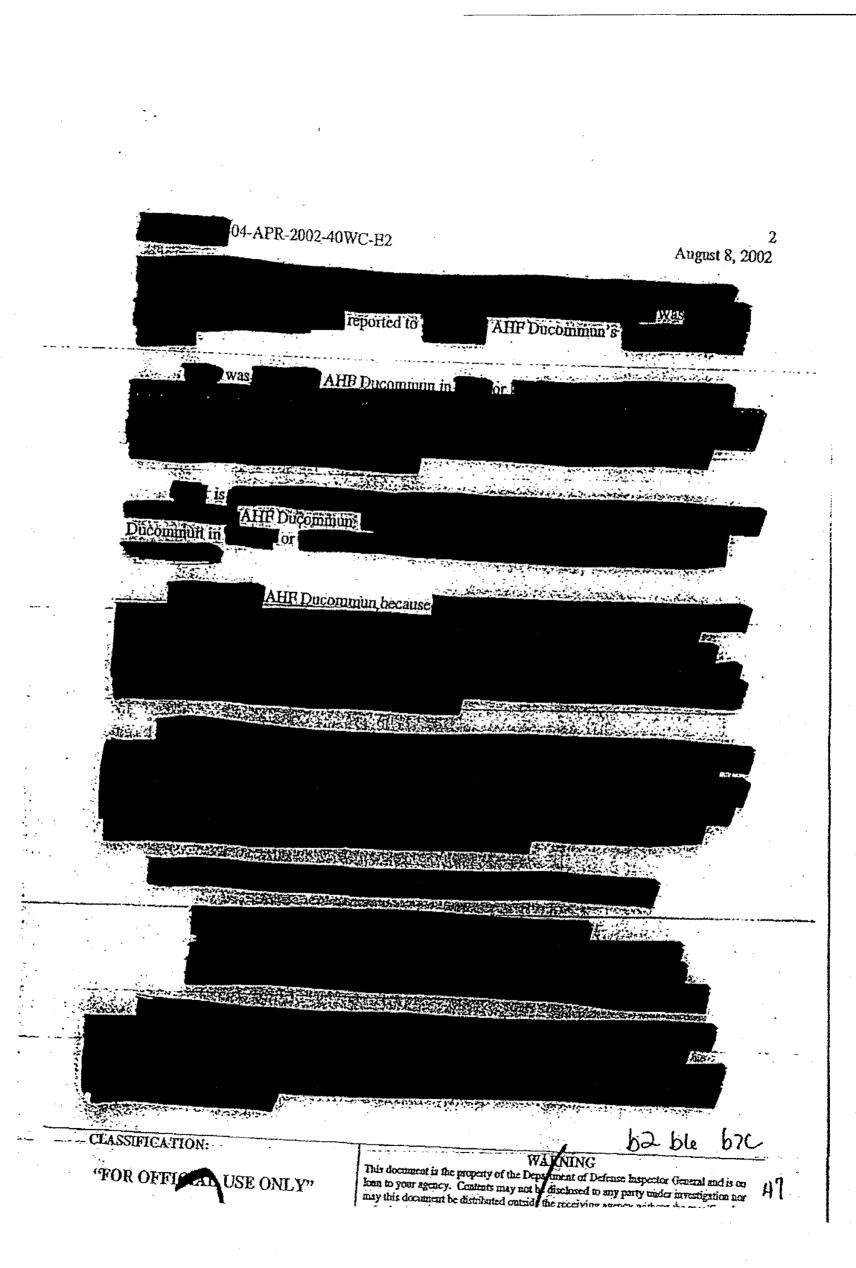
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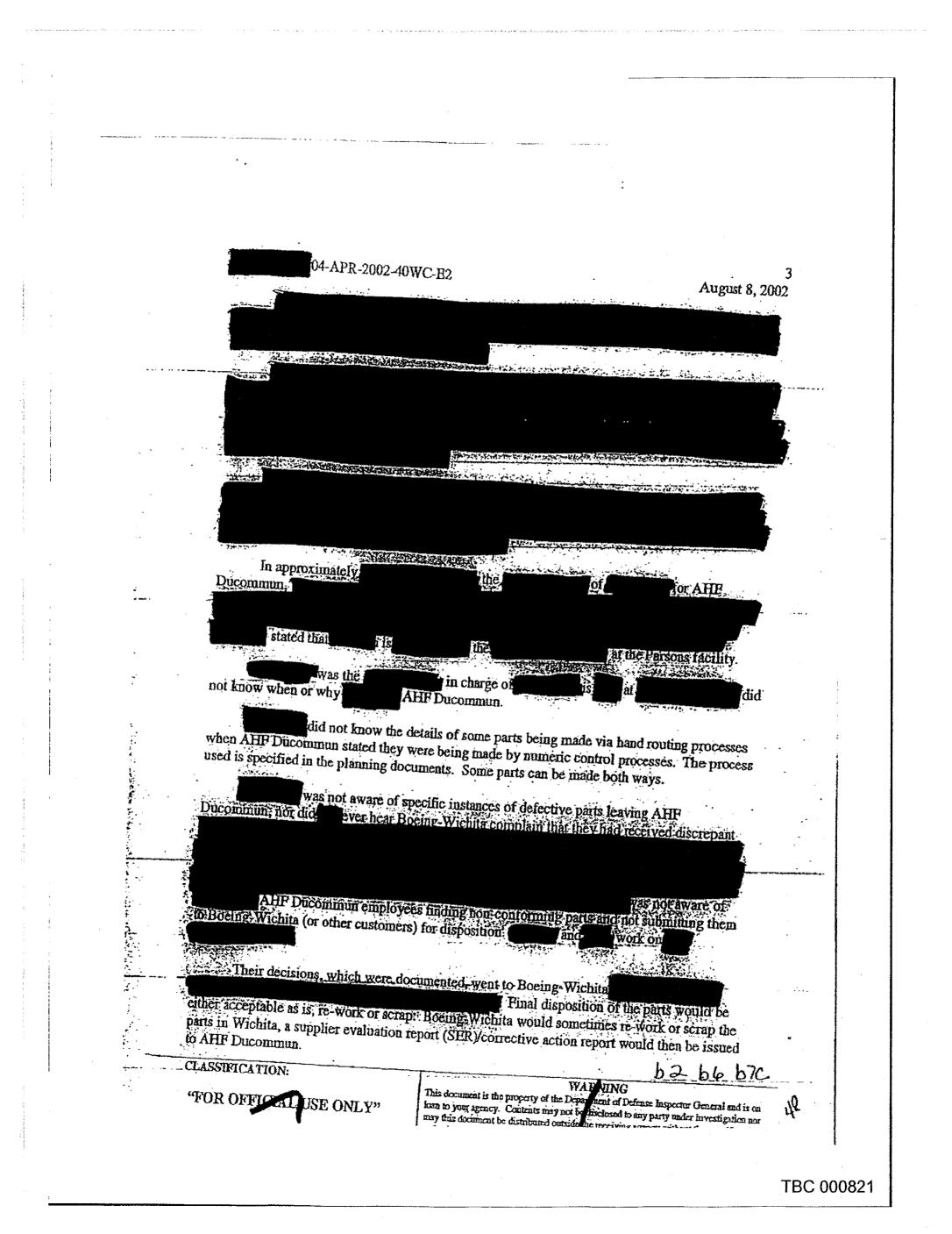
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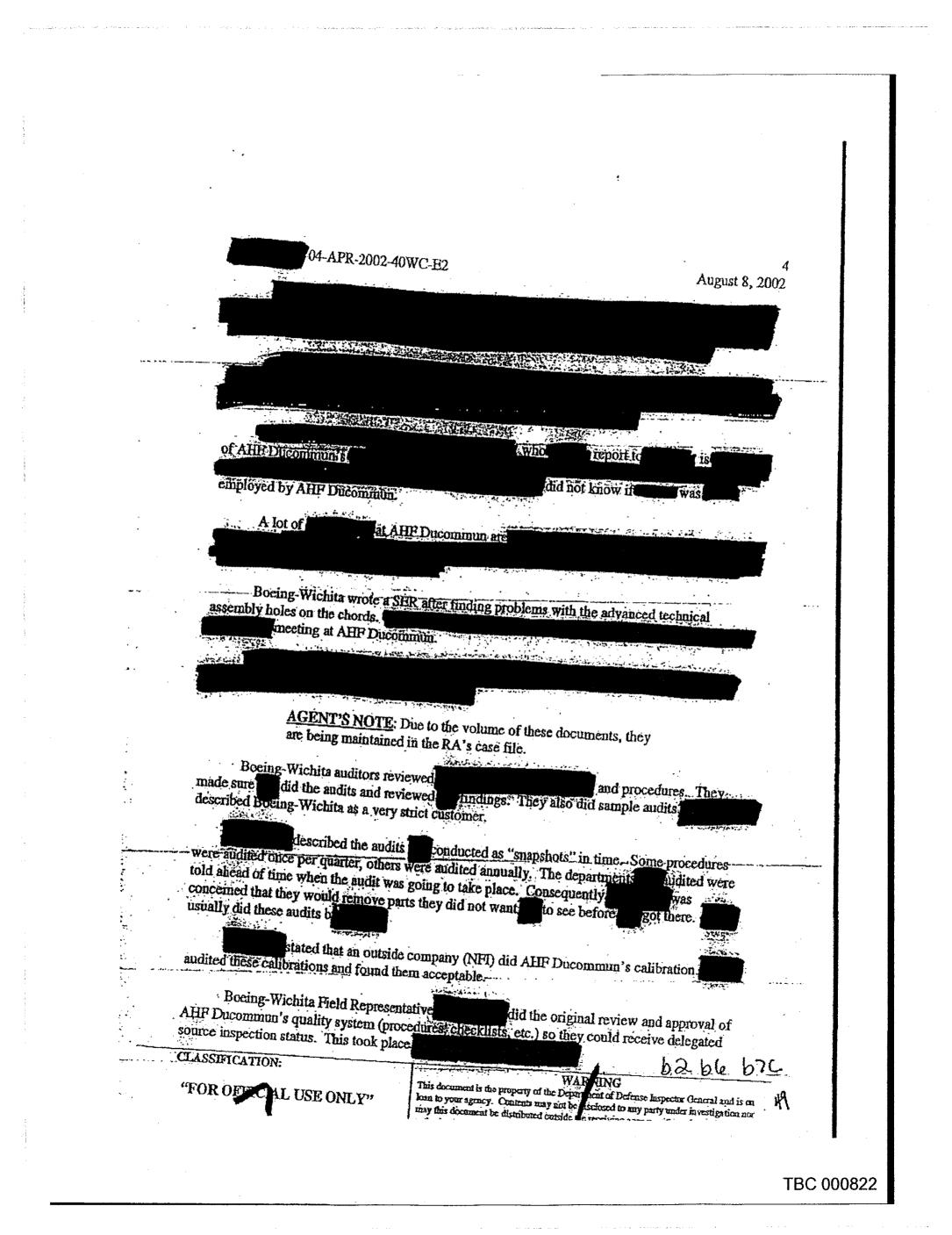
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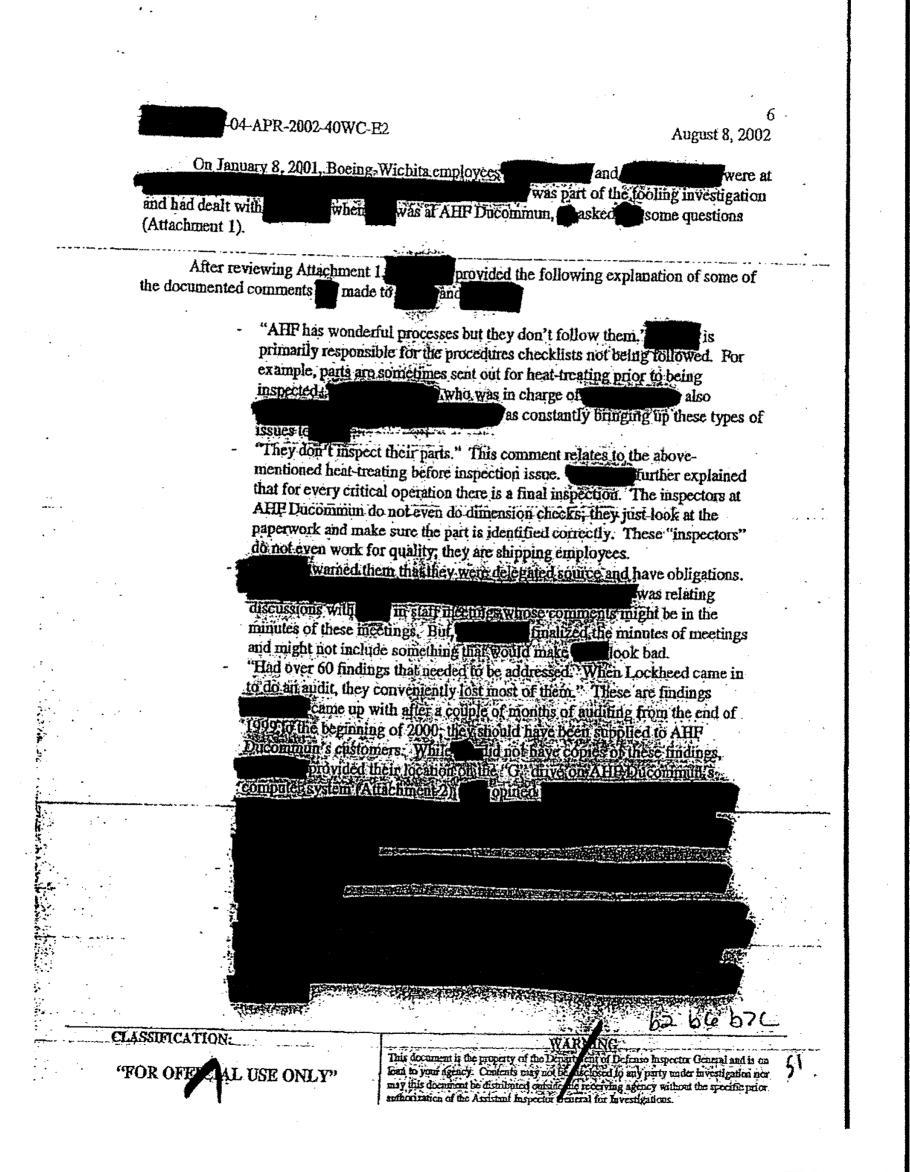








)4-APR-2002-40WC-E2 August 8, 2002 was one of the reasons AHF Ducommun and Boeing-Wichita were "tight." did not know what position was at Boeing-Wichita.or if originally gave AHF Ducommun delegated source inspection status, the never saw anything in was the one who writing from Bocing-Wichita grating this status, although to review it annually. At the end of 1999 or beginning of 2000, Boeing-Wichita quality employee rejected the procedures had approved, as they did not meet Boeing-Wichita's needs was also responsible for reviewing AHE Ducommun's audits. was in charge procedures after several rejections bŷ could not recall what the specifics of the problems were that necessitated these re-writes. Boeing-Wichita document D1-9000 delineates the specific requirements (training, quality procedures, etc.) a supplier must meet before they can be granted delegated source inspection status. AHF Ducommun's procedures had to be re-written because they did not meet DI-9000. Document OS-200-10 #13 is AHF Ducommun's first attempt to comply with D1-9000. The delegated source inspection procedures were specific to each department at AHF Ducommun. When the re-write of the procedures for a particular department was completed and did an audit of that department. This took place approximately once every two weeks. rould,"clean up" an area before appointments. Consequently arrived for cheduled audits found no problems: was doing another re-write (document OS-200-10 #16) when diporknow if ventually granted AHR Ducommun full delegated source ection status or non Ass knew, Boeing-Wichnerdid not suspend this status en the procedures were b cing is whitten Wasa ucommun where as AHP delegated source inspection status on some particular parts that are identified on the purchase AHP Ducommin orders. Northrop has an inspector that comes into the facility to inspect their parts. 62 64 670 CLASSIFICATION: W? NING This document it the property of the De "FOR OFFICER, USE ONLY" chi of Defrase Inspector General and is on toan ab your agency. Contents may i four in your accurry. Countents may not a disclored to any party ander investigation nor may this document be distributed outside the receiving agency without the specific prior Q



August 8, 2002

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recommended that the Government obtain all of the findings that were the result of audits by AHF Ducommun (internal) and their customers (external). These findings are required to be kept for a minimum of seven years.

puld only recall a Defense Contract Management Agency (DCMA) representative coming to AHP Ducommun on one occasion that did not have to do with a Boeing-Wichita part (NFI). The DCMA representative was there by request.

Attachments

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1) Notes of conversation with

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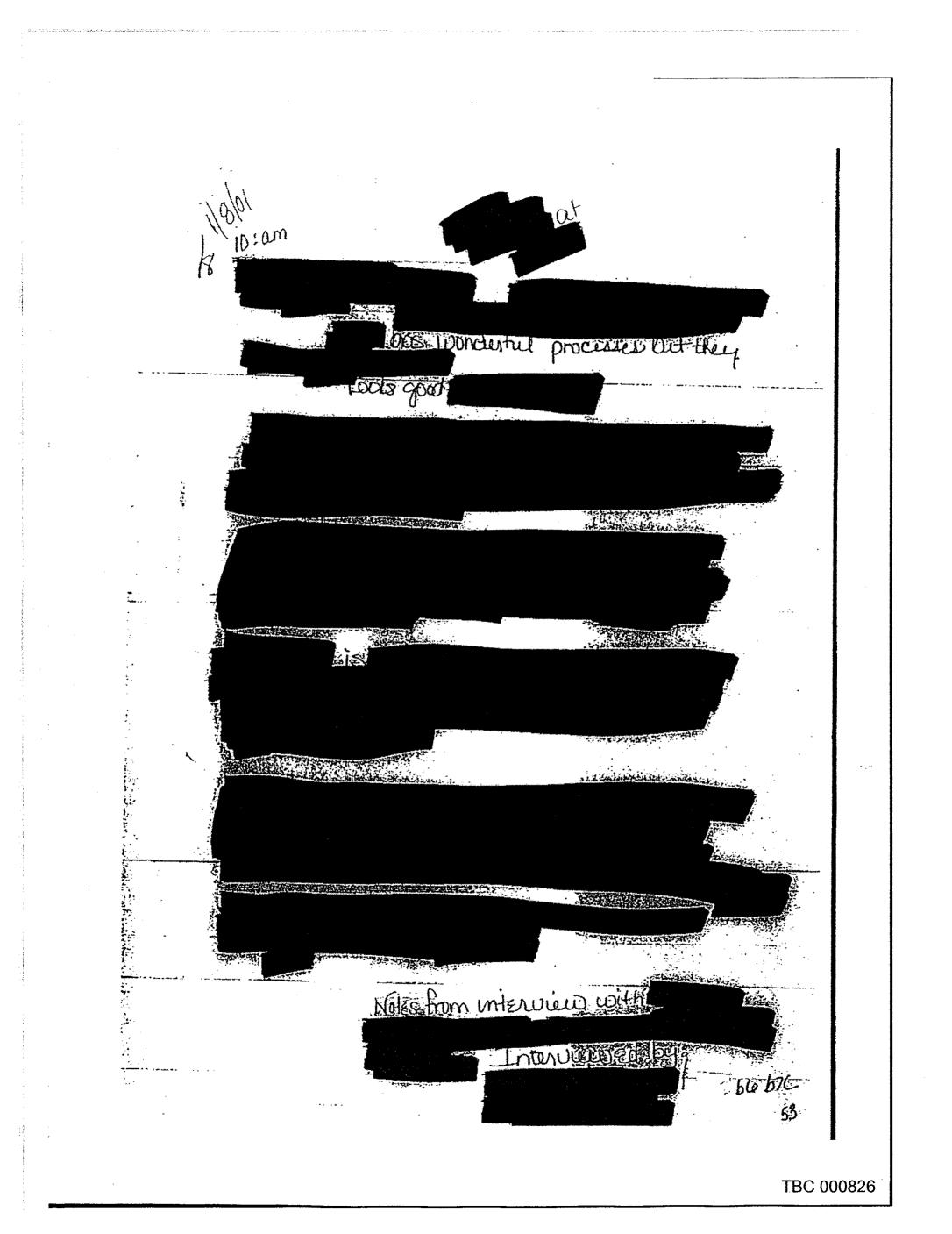
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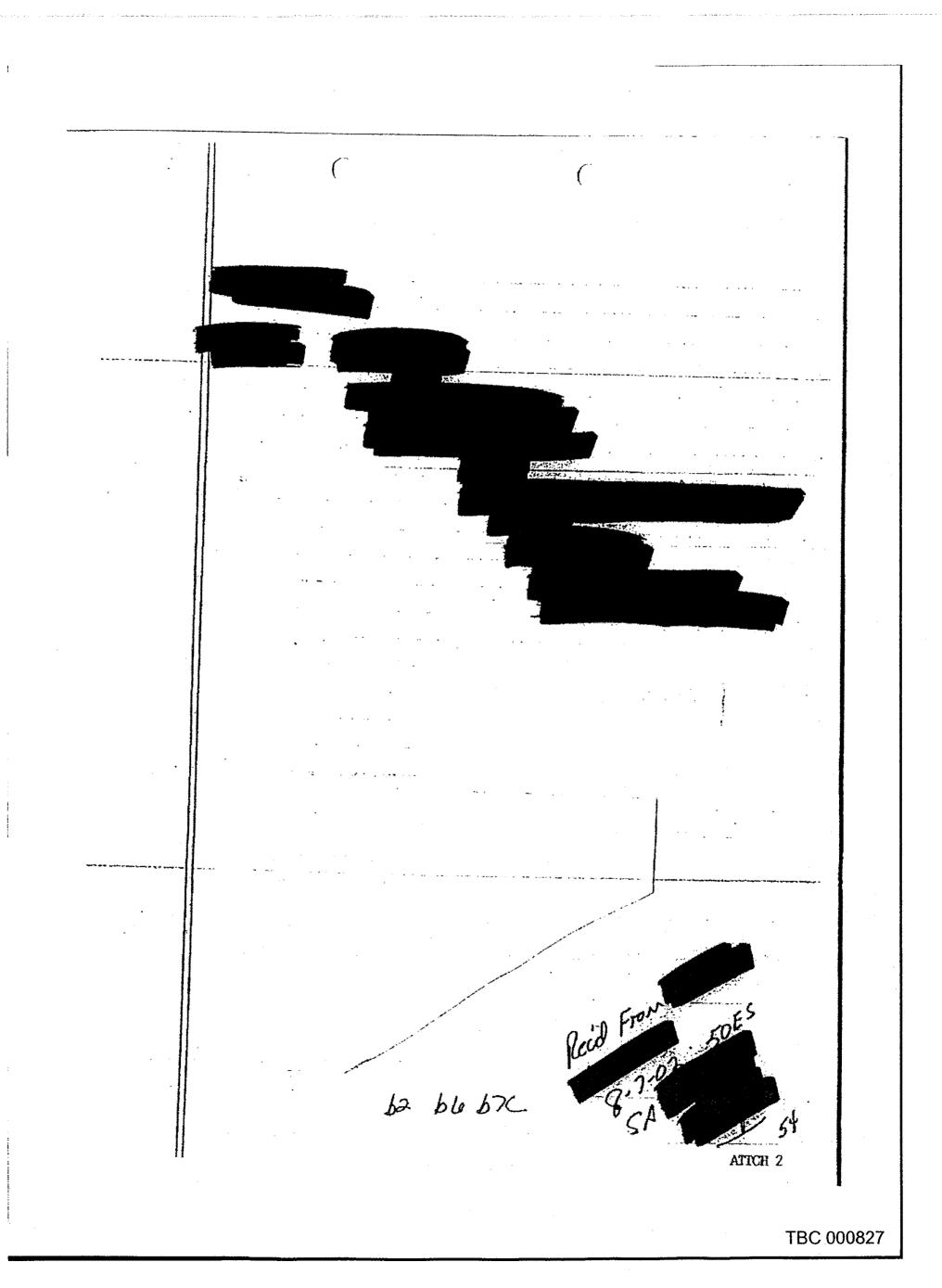
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-APR-2002-40WC-E2

August 9, 2002

BOEING COMMERCIAL AIRPLANE GROUP Wichita, KS

DUCOMMUN, INC. Long Beach, CA

INTERVIEW OF On August 9, 2002, the reporting agent (RA) telephonically interviewed Aviation Administration (PAA). Los Airgeles Manufacturing Inspection District Office, Federal Lakewood, CA (562-627attended the May 29, 2002 meeting with the qui tam relators (Ref: DCIS Form 1 dated June 3, 2002).

During the week of July 22, 2002, visited The Boeing Company-Scattle, WA where he looked at installed bear straps and full safe chords on sineraft shipped from Boeing-Wichita. Items he examined include gap conditions, short edge distance of fasteners, workmanship, etc. While everything he looked at appeared acceptable pre-load (internal stress load on parts to get them to fit) on some of these components could be problematic. Any pre-load problems cannot be identified with the naked eye have to visit Boeing-Wichita and look at their tools and how they are used to install in parts in the aircraft fuselages.

obtained drawings for the approximately 25 737, 757 and 777 aircraft parts that FAA identified as being sold to Boeing-Wichita by Ducominim (Refr Adde inderif 3 to Dell's Form 1 dated July 10, 2002). He had these 'vague' drawings available when he was examining the parts at Boeing-Sealtle.

plamed trip to AHP Ducommun. Gardena, CArdining the last week of July 2002 did not take place as he could not get He now intends to visit Discommun during the first week of September 2000 to go with will ask for first article reports (these should not be available as the Boeing-Wichita and tors were told that Ducommun did not have them and the vale hard to forget and will took at the tools Ducommun uses to produce the fail safe chards pointed out that the relators state that the problems with the bear straps had been fixed. He discovered no installation problems regarding these components at Boeing-Scattle.

Shortly after fing to Ducommun, an PAA inspector at Hoeing-Wichita will research the "red (rejection) files" relating to the Ducommun fail-safe chords and bear straps. He did not want to do this right now as he was afraid that if Boeing-Wichita told Ducoimmun that some of their parts were being looked at, they (Ducommon) might hide things of interest

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Wichita POD

2 August 9, 2002

agreed to provide the RA with copies of all reports, inspection records, etc. that are prepared by the FAA relative to their inspections at Boeing and Ducommun. He will also make copies of what they obtain from Ducommum during their inspection. The RA briefed on the law of "agency;" stated that he will only get copies of Ducommum decuments that are necessary for PAA purposes.

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04-APR-2002-40WC-E2

September 4, 2002

BOEING COMMERCIAL AIRPLANE GROUP Wichita, KS-

AHF DUCOMMUN, INC. Gardena, CA

THE INFORMATION CONTAINED HEREIN WAS PARTIALLY DERIVED FROM A OUI TAM COMPLAINT THAT REMAINS UNDER SEAL BY ORDER OF THE U.S. DISTRICT COURT. DISSEMINATION IS RESTRICTED.

RECEIPT OF LISTING OF POTENTIAL INTERVIEWEES: On July 8, 2002, the reporting agent (RA) asked Cincinnati, OH, to have his clients prepare a list of potential interviewces in the above captioned case (Ref: DCIS Form 1 dated July 8, 2002). On September 4, 2003, the RA received the requested listing, apparently prepared by gui tam relator Attachment 1).

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APPIO

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Attachment:

Prepared by SA

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1) Electronic mail message from to the RA, attached is a listing of potential interviewees

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04-APR-2002-40WC-E2

September 5, 2002

BOHING COMMERCIAL AIRPLANE GROUP Wichita, KS

AHF DUCOMMUN, INC. Gardena, CA

RE-INTERVIEW OF On September 5, 2002, the reporting agent (RA) telephonically interviewed Federal Aviation Administration (FAA) For Angeles Manufacturing Inspection District Office provided information in addition to the interview conducted on August 9, 2002 (Ref. DCIS Form 1 dated August 9, 2002).

stated that yesterday he and another FAA inspector made an mannounced visit to AFIF Ducommun, Gardena, CA,cooldinated this visit with Boeing-Seattle; he also told what the FAA would be looking for. FAA. arranged for Boeing quality representative who has been very helpful, to accompany the FAA inspectors. Boeing did not inform AHF Ducommun that the FAA was coming to inspect them.

According to Boeing-Wichita is aware that the FAA issued a Suspect Unapproved Part (SUP) report and that the DCIS is conducting an investigation reportedly obtained this information from Boeing-Wichita employee

assigned to the AHF Ducommun facility The new Boeing representative did not know when 2.2.436.4

When and the others arrived at AHP Ducommun met them? said they were investigating a whistleblower complaint from which #SUP report had been prepared.

who limmediately invited them into the facility, has been there for approximately Driefed him on the non-conformances they were investigatings what they year. Wanted to look at (planning documents and drawings, list of Supplier Hyaluation Reports from Boeing, internal and reports (etc.), and provided him with a short list of part numbers. An ho and a half later that complied the requested planning documents quality reports; drawings, proceedings, etc. in a room when

Within minutes of their arriva

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2 September 5, 2002

members of the Ducommun for about

i t and had been at AHF

and "we were all screwed up." AHF Ducommun has changed their entire management team since that time; determine they were here to make corrections and would not hide anything. He offered to show the problems they were working on and offered to fix anything the FAA deemed necessary.

years.

Both

Some of the areas that the said he would look at more closely are tool identification and part marking. He will probably write up the fact that some tools, including three mill fixtures for the bear straps, that did not have inspection tags/straps. AHF Ducommun already has a corrective action plan for tool marking.

AHF Dicommun. He will determine whose stamp that is and if that person was an employee of Boeing at the time the tools were stamped off; he will also look for a report from that person

The bear strap mill fixtures are AHP Ducommun tools that were not "bought off" by Boeing. And said these fixtures/tools were not used for inspection acceptance. They reportedly accept the bear straps based on measurements taken by a measurement machine.

Regarding the allegation that AHP Ducommun is hand forming the failsafe chords, observed that the stretch form machine they are using can only bend the parts so far. The part then has to be bent by hand to get it to the exact dimension. The chords are checked to a check fixture before the hand forming takes place. The said that hand forming is an industry-accepted practice, but he will have to make sure that it is specified in the engineering documents.

He did see them grinding some parts, but they were being deburred. The fact that some tools are stored outside is not a "big deal" to the FAA.

was trying to hide anything. He said, "Everything and the said made sense, he seems to have all the right answers" and Management has been very open and honest and want they want to do the right thing." Interest the concluded by saying that, so far, it appears that they are working towards correcting the problems they had in the past

start digging deeper into their processes, etc. as well as determining if the corrective actions and service difficulties have been corrected. He will also ask for the first article reports for the b2 ble b7c

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3 September 5, 2002

tooling made in the 1997/97 timeframe (which the <u>qui tam</u> relators said AHF Ducommun did not have). **Second states** and the company could have done a subsequent first article after the 2000 Boeing audit.

the RA with a copy of his trip report.

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---- September-10, 2002

(Investigations)

04-APR-2002-40WC-E2

BOEING COMMERCIAL AIRPLANE GROUP 3801 S. Oliver Wichita, KS 67210

DUCOMMUN, INC.

111 W. Ocean Beach Blvd., Suite 900 Long Beach, CA 90802

THE INFORMATION CONTAINED HEREIN WAS DERIVED FROM A OUI TAM COMPLAINT THAT REMAINS UNDER SEAL BY ORDER OF THE U.S. DISTRICT COURT. DISSEMINATION IS RESTRICTED.

SPECIAL INTEREST CASE TOP 100 DOD CONTRACTOR QUI TAM NO. 02-2107-KHV, DISTRICT OF KANSAS

CASIS SUMMARY: On March 2, 2002, attorneys for four qui tam relators filed a complaint against The Boeing Company (Boeing), Chicago, IL and Ducommun, Inc., Long Beach, CA, alleging numerous violations of the Federal Civil False Claims Act (31 USC,

The complaint states that from approximately 1994 to the present. Ducominum sold innumerable nonconforming parts to numerous Boeing subsidiaries. Including Boeing Commercial Airplane Group (Boeing CAG), Wichita KS (relator s conployer). The parts listed are structural components used on aircraft airfiames and fuselages. Each Boeing aircraft contains over 100 Ducommun parts, most of which cannot be inspected by nominvasive means, Reportedly, Boeing has identified all of these parts as "flight critical," meaning they are essential to the airworthiness of the aircraft. No failures of these components were holed in the complaint

The Discommun parts are installed on Boeing aircraft, including the 737, 747, 157, 767 777, C-17, F-22, Cal 30, F 15, F-16; F/A-18 and CH-47D. These preciait, which are built by Boeing plants in Tulsa, OK, St. Louis, MO, Macon, GA, Louig Beach, CA and Wichita KS, w sold to commercial as well as U.S. military and Foreign Military Sales customers

In 1999 and 2000, the realtors were members of audit teams that visited Ducommun-These teams found numerous serious manufacturing nonconformances. The teams also discovered that Ducommun had no Statistical Process Control data (which Boeing addits claimed were available) and that they had falsified non-destructive lestin CHASSIFICATION:

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TBC 000834

September 10, 2002

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told one of the relators that Ducommun routinely omitted required inspections and that Ducommun management refused to correct quality problems.

The team's published reports and briefings to Boeing CAG management were allegedly ignored because the revocation of Ducommun's Delegated Source Inspection would result in Boeing CAG having to inspect incoming Ducommun parts. As Boeing CAG was arguably aware of the Ducommun quality violations even prior to the team's audits, all certifications by that company to the U.S. contain false statements as all aircraft contain undisclosed nonconforming parts. To date, the damages to the Government cannot be determined.

June 10, 2002, Update: The relators have been interviewed on two occasions and have provided detailed information regarding the "bear straps" and "chords" manufactured by Ducommun and used on Boeing CAG's 737-NG aircraft. The civilian version of this aircraft is the C-40A (Navy) and C-40B (Air Force). All information has been provided to the Federal Aviation Administration (FAA) that has agreed to inspect a commercial fuselage at Boeing CAG to determine if the Ducommun parts are defective and/or nonconforming. Currently, no C-40A or C-40B fuselages are available for inspection.

September 10; 2002, Update: Al interviewed. While for Ducommun was was not aware of defective parts leaving Diffeommun, it was very common not to follow the proper processes or procedures when making the parts. These nonconforming parts were submitted to their customers, including Boeing, for disposition Ducommun as

The FAA has visited both Boeing-Scattle and Dilcontinum. Ducommun bear straps and failsafe chords that were installed on a commercial fuselage were examined and appeared to be acceptable. Preliminary results of the inspection at Ducommun is that the company's new management is cooperative and they appear to be correcting problems identified by the 1999-2000 Bocing-Wichita audits. Documents supplied by are being reviewed.

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04-APR-2002-40WC-E2

BOEING COMMERCIAL AIRPLANE GROUP

October 1, 2002

AHF DUCOMMUN, INC. Gardena, CA

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RESPONSES TO QUESTIONS RECEIVED FROM RELATORS COUNSEL: On September 18, 2002, the reporting agent (RA) posed several questions to Attorney at Law, Helmer, Martins and Morgan, Cincinnati, OH (Attachment Sig represents several relators in gui tam lawsuit that was filed against The Boeing Company and Ducommun, Inc. On October 1, 2002, the RA received answers to those questions (Attachment

Attachment: 1) E-mail to

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from RA, 9/18/2002 2) E-mail to RA from 10/1/02 ~

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OUI TAM: On March 2, 2002, attorneys for and *qui tam* relators), filed a complaint against The Boeing Company, Chicago, IL and Ducominitin, Inc., Long Beach, CA, in United States District Court, District of Kansas (Attachment 1).

Attachment 1) Qui Tam Complaint 02-2107-KHV

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04-APR-2002-40WC-E2

November 5, 2002

BOEING COMMERCIAL AIRPLANE GROUP Wichita KS

AHF DUCOMMUN, INC. Gardena, CA

<u>REVIEW OF -2034 CONTRACT</u>: On October 31 and November 4, 2002, the reporting agent reviewed contract N00019-97-C-2034 and the files associated with that contract at the offices of the Defense Contract Management Agency (DCMA), Boeing sub office, Wichita, KS. Attachment 1 has portions of the basic contract that contain the "FAA Certification" (page 9) and "Manufacturing and Quality" (page 10) requirements imposed on Boeing-Wichita regarding the manufacture of the U.S Navy's C-40A aircraft.

Attachment 2 is a DCMA-Seattle memorandum that delineates discrepancies found in the inspection of C-40 aircraft. Attachment 3 is a letter from the Navy Contracting Officer to Boeing-Seattle describing conditional acceptance of C-40A aircraft. Attachment 4 lists the "C-40A Program Support Team Points of Contact."

Attachments:

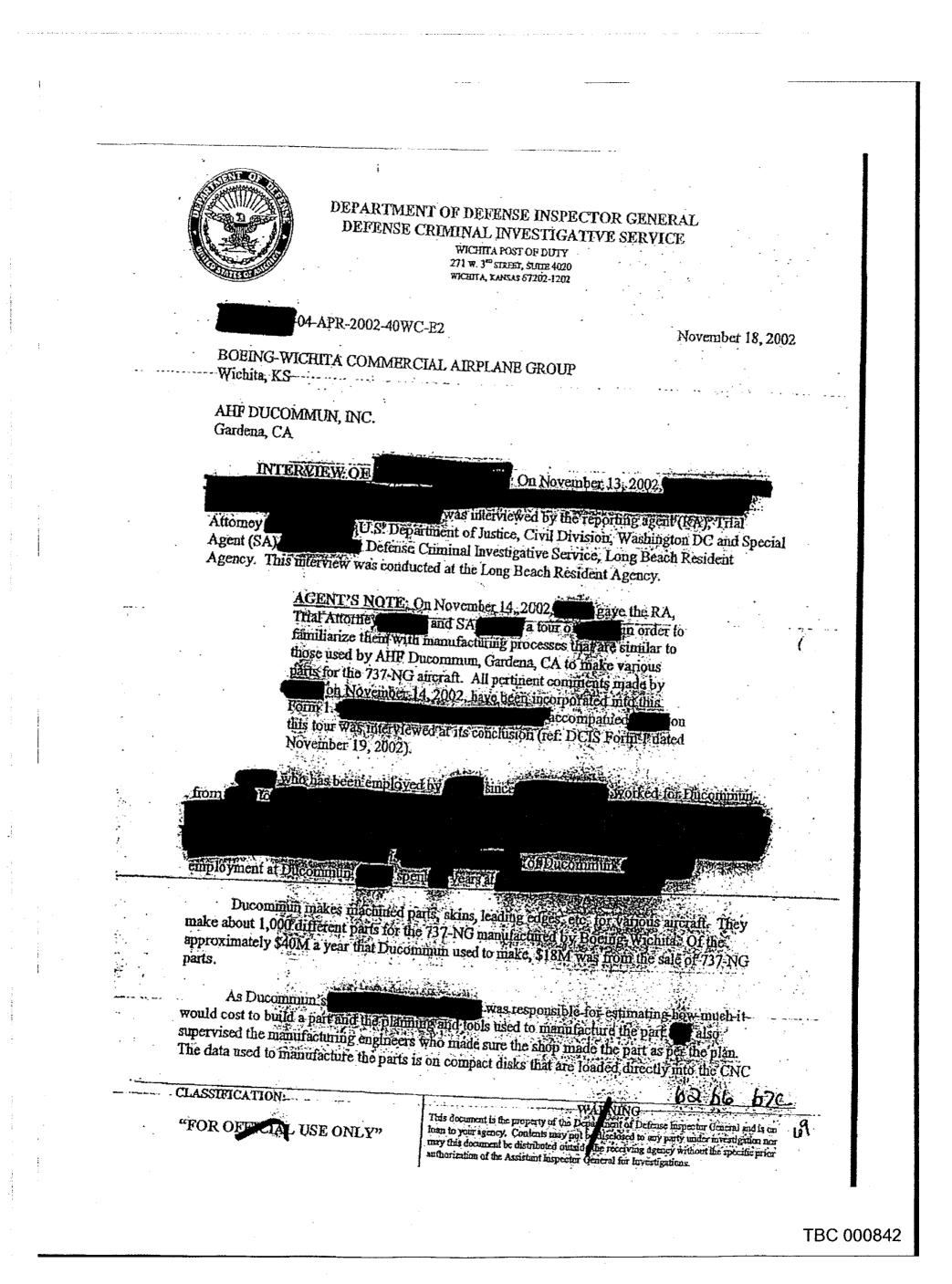
1) Select pages of contract N00019-97-C-2034

- 2) DCMA-Seattle memorandum, 2/4/00
- 3) Letter from the Navy to Boeing, 4/6/01

4) Annex 1 to Memorandum of Agreement between C-40A Program Office and DCMC

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BOI	EING COMMERCIAL AIRPLANE GROUP
AHI Gard	FDUCOMMUN, INC. lena, CA
recei	<u>RECEIPT OF CHRONOLOGY</u> : On November 7, 2002, the reporting agent (RA) ved a chronology prepared by Trial Attorney Constant U.S. Department of Justice
(DO) RA's	D), Civil Division, Washington, DC. This chronology, which is being maintained in the
	case file, was prepared using the documents supplied to the DOJ by the relator's counsel s protected by the attorney work product exception.
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1) Bo	being-Chronology, 11/6/02 (in RA's case file)
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November 18, 2002

(computer numeric control) machines. provided a flow chart showing Ducommun's engineering organization (Attachment 1).

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stated that the 737-NG built by Boeing-Wichita utilizes the advanced technology assembly (ATA) technique. Rescribed ATA as how the aircraft is put together, the holes in one part are made to line up with the holes in the next level assembly. The parts "fixture" themselves, making it easier and faster to put the aircraft together. The ATA hole method also necessitates the use of a lot fewer tools.

Either the ATA holes (which must be in relation to the curve of the fuselage) fit together or they do not; if they do not this creates a problem for the assembler but it is not a "show stopper." The ATA holes are rarely full size, 90 percent of them are opened up at assembly with, for example, a number 30 drill. A Kleko is a fastener that is inserted through several of the ATA holes to clamp the parts in place while the remaining ATA holes are back-drilled and the rivets are inserted. The Klekos are then pulled out and those holes are back-drilled and riveted.

The first aircraft to utilize the ATA assembly method was the 777. All the plans for this aircraft are computerized; there are no traditional drawings: The 737-NG is also a computergenerated airplane.

All parts that are above the "water-line" of the aircraft are bonded together while those below this line are riveted together. Rivets are used as a hydraulio fluid leak could cause the deterioration of bonded joints. Not using the proper heat treat or alloy are the "two big sins" in the manufacture of aircraft parts.

The 737-NG is a very close tolerance aircraft. A tolerance of allowed previously, Boeing-Wichita requires a tolerance of on the ALANCE The tools used to make the parts for this aircraft have to be built to a tolerance of is very well put together and everything is checked "six ways from stated the 737-NG

Boeing-Wlohita is the hat subcontractors like Ducommun. deal with i Lockheed Martificis Plot mi

Ducommun built most of the tools, they used, but they did buy some from vendors including internally by Ducominius, and sometimes by Boed These tools were approved

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3 November 18, 2002

These tools were made using numeric control machines; they were then inspected using a coordinate measuring machine or laser. Tools can also be used to check the parts. After a tool is completed, a first article part is made from it. If the first article is acceptable, so is the tool. Exley commented that the first article "sells the tool."

described tools as "holding devices." All parts have tooling tabs that hold the part in place on the tool so the ATA holes are drilled in the proper locations and the part can be trimmed and routed to the proper dimensions. These tabs are removed before the part is shipped to the customer.

The 737-NG tools at Ducommun were calibrated about every 100 aircraft. If there is a problem with the parts coming from a particular tool it will be seen fairly quickly and the tool

was not aware of any non-conforming parts made by Ducommun and accepted by Boeing-Wichita, nor did he feel that Ducommun did not respond to problems. Boeing-Wichita will immediately notify Ducommun if the part has fit, form or function problems. Boeing-Wichita has charged Ducommun for the re-work they have had to do on some skins. If a part has fit, form and function it is acceptable, if it does not it will be returned to be re-worked or

Failsafe chords (including P/N 2321) were made by Ducommun. described them as the hoops/ribs in a covered wagon, but they are three or four levels beneath the outer mold line (OML) or air stream of an aircraft, stressed that the chords are not structural members that provide support to the outside of the arcraft; the bulkheads are what hold the aircraft together (there are 10 to 15 bulkheads in the 737-NG, most are near the doors).

If all of the chords failed and "you would not even know it." An ancraft built without chords would still fly. There are about 100 of these components on the 737-NG.

The chords are about one inch by one inch prior to extrusion and machining. These aluminum ATA parts are designed to provide rigidity to the interior ceiling. Those that go in the "barrel" of the aircraft are a true radius.

The tools used to shape the chords are stretch form blocks (STFB) that are the shape of the inner mold line (IML) of the aircraft. The aluminum is not heated prior to being stretched over the STFBs. Those chords that are true radiuses can be rolled. IML parts do not have as many Federal Aviation Administration (FAA) requirements as OME parts.

estimated that 90 percent of the fails afe chords that Ducominum made for the 737-NG were hand-routed. They were stretched into shipe on the STFBs, and then put in a tool to trint the edges and drill the ATA holes. While haid that the drawing allowed the hand-rout

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November 18, 2002

method, he also said that he has never seen a drawing on which the engineer specifies how a part is to be made.

Possible explanations could include operator error and the existence of a chip on the tool that affects the alignment of the part. A shy edge margin (SEM) on a chord might render the part unusable; but it might be able to be shimmed.

Boeing-Wichita has "boxes" of the chords for the 737-NG. If they can be installed in the aircraft they will work, as there is not a lot that can go wrong with these parts. If a chord has to be twisted or bent to make it fit it would be rejected at Boeing-Wichita.

is the contour is off when the chords are installed, shims are used to fill in the gaps. Said that the 747 aircraft have about 900 pounds of these items. ATA technology has helped to do away with shims.

Other 737-NG parts made by Ducommun include bear straps (which looks like a bear skin rug) and doublers. The bear strap, which is also known as a doubler because this is what it does, is a very thin and light aluminum part that goes about a foot inside the interior of the aircraft door where it is bonded or riveted to the door. It is designed to stiffen the door. The doubler is similar to a doorframe.

Any discrepancy caused by drilling the ATA holes too close to the edge would be seen when an assembler tried to align the ATA holes on the bear strap with those on the door. It is doubtful that there would be enough stress on these SHM holes to pull them through as the part is both bonded and riveted to the door.

Edge margin would be more critical on a the skin of an aircraft where a fracture could develop. A stress engineer has to disposition SEM parts.

Neither the chords bear straps nor doublers are "fracture critical." or "grain direction" parts, therefore none of them are defined as "flight critical." Ducommun was the first company to manufacture these parts for the 737-NG using ATA technology.

Boeing-Wichita gave Ducommun delegated source inspection status which means that they do not have to inspect parts that are received from Ducommunit status was ever rescinded on particular parts.

If a part is discrepant it goes through a material review board at Ducommun. If the problem is that, for example, the part is too long, it can be resolved internally. If, for example,

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the part is too short, the customer has to make the disposition decision. said these situations occur frequently. Every time a discrepancy tag is written there must be a corrective action.

-- The quality side of Ducommun was responsible for any required testing. - All parts that were to be used in space were subjected to both destructive and non-destructive testing. Ducommun used Durkey Laboratory, Downey, CA.

The certification/data packages that accompany parts through the manufacturing process are kept at Ducommun. These packages contain the router/ traveler/ planning document and final certification. Every part is subjected to a final inspection at Ducommun, but all the inspector does is make sure the paperwork matches the part. The inspector signs the certification of conformance that goes to the customer. The part will not ship until this data package is correct. Customers such as Boeing-Wichita can audit these packages anytime; Ducommun has to keep them for seven to 10 years (mainly for material traceability purposes).

Statistical process control (SPC) data shows exactly where a part is or is not in tolerance. It is collected on about the first 100 pieces, but customers then ask for a price reduction when the manufacturer gets the process under control. Almost all of Ducommun's tools had SPC data available for "key characteristics." These key characteristics are determined by an engineer or specified on the drawing. Parts can be checked without SPC data. Exley was not aware of Boeing-Wichita asking for SPC data that had not been collected.

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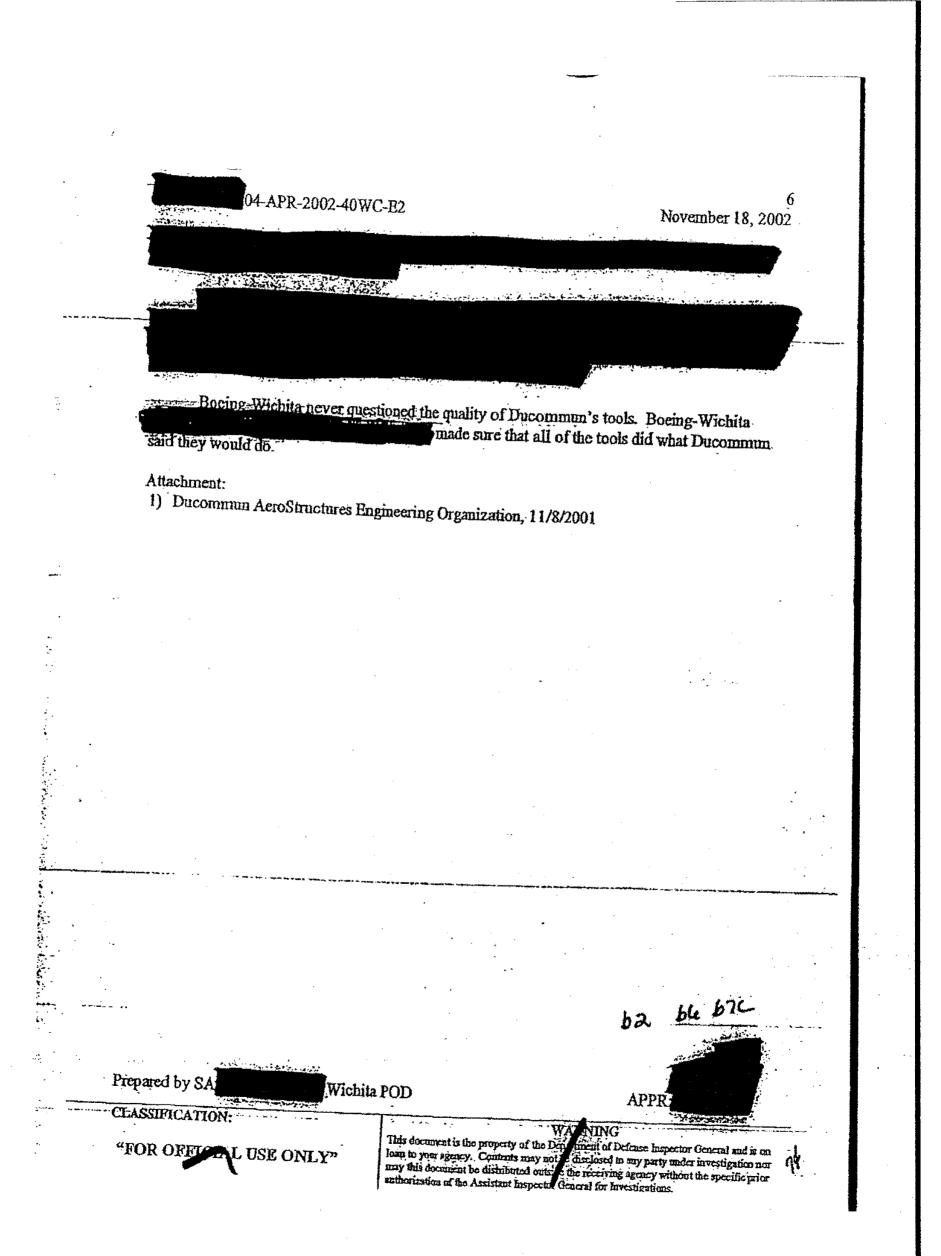
In 1999 of 2000, Boeing Wichita did a "tooling andit" at Discommun. They complained that Ducommun had pard foo much for some lools, but Boeing-Wichila had approved of and putchased these tools five years previously affer conducting an extensive fact-finding process (how long to make the tool, cost, etc.). This process took so long that Ducommun had "actuals" or some of the loois.

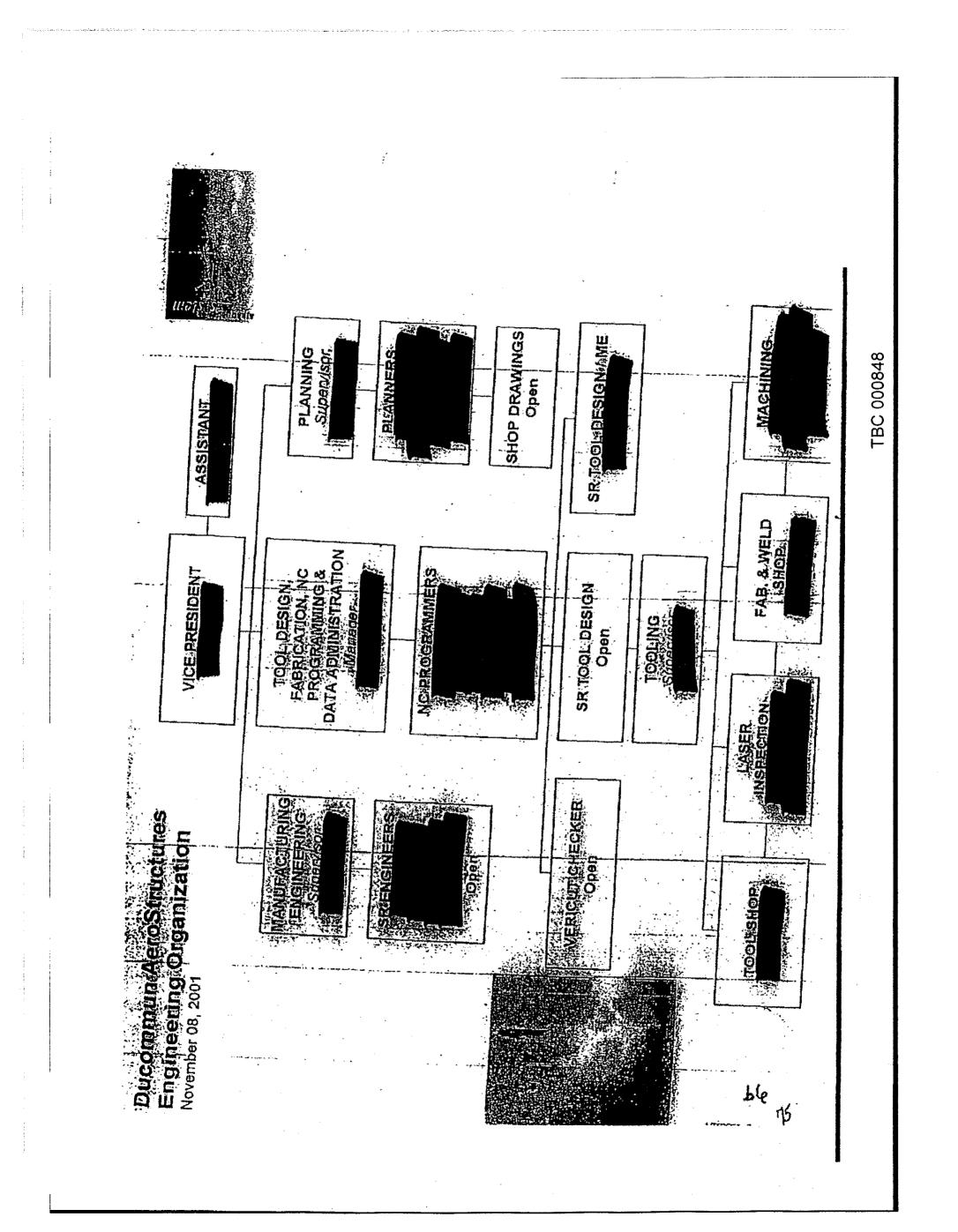
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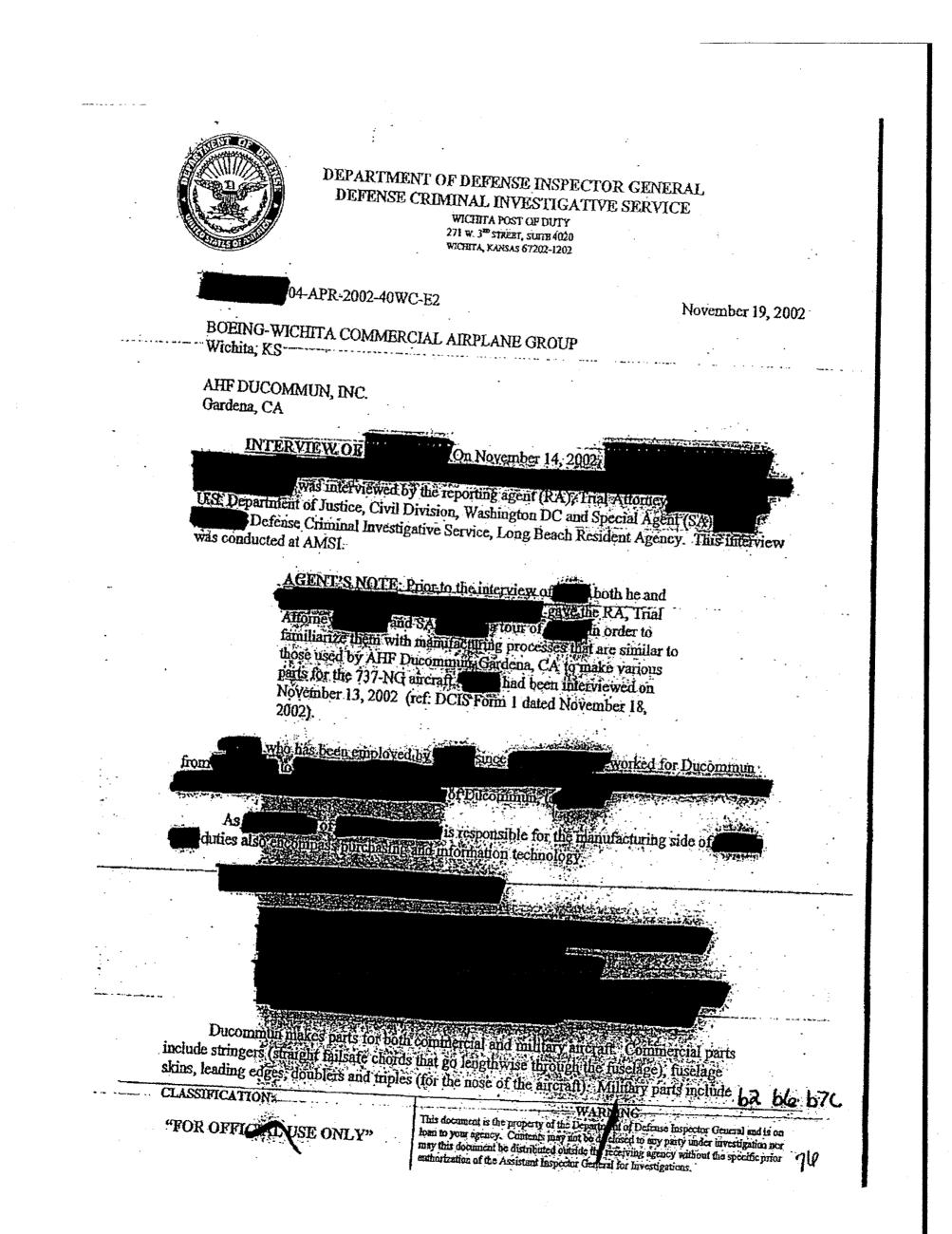
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November 19, 2002

leading edges, skins, exhaust skins for the B-2 (hot formed from titanium), and the leading edge skins for helicopters. The "flight critical" parts made by Ducommun are the leading edges and some of the fuselage skins. But, these parts were not designated as "fracture critical."

Douglas), Northrop and Augusta (Spanish helicopter maker). We was not aware of Ducommun ever having any prime contracts with the Department of Defense.

Almost all of the tools for the parts Ducommun made for the 737-NG were made at Ducommun. Boeing-Wichitz Ducommun can invoice the tool and it is now cowned, by Boeing. This stamp certifies that the tool has produced a good first article part, without which Boeing-Wichita would not accept/purchase the tool. The never inspected the tool, he just looked at the placard.

stamp off on. He had no discussions with the personally did not either take their stamps home or lock them in their toolboxes.

Martin did have a making parts for the space

All of Ducommun's advanced technology assembly (ATA) tools were calibrated about every two years. Tools for new products were calibrated annually. These tools were calibrated in-house using a coordinate measuring machine (CMM). Occasionally Boeing validated Ducommun's CMM report, but they never did their own calibrations or checked those done by Ducommun.

Boeing-Wichita toured Ducommun's facility several times before they awarded them any ATA contracts. After they saw that Ducommun was successfully doing the hole fabrications for the 777 leading edges, they awarded them the 737-NG ATA contracts.

Some of the Boeing-Wichita employees who came to Ducommun for the 1999 tooling audit were showed the Boeing-Wichita employees around Ducommun.

Prior to the commencement of this audit. Boeing, Wichita told Ducommun they were going to conduct a "tooling audit." But they hot only looked at tools, they examined methodologies, calibrations, etc.

It was during this tooling audit that the first heard that Boeing-Wichita was under the impression that Ducommun using numeric control (NC) as opposed to hand routing techniques for all 737-NG parts.

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pointed out that numerous Boeing-Wichita employees (includingthe "Boeing cell" at Ducommun where all of their failsafe chords and "J" frame (sheet metal) visited parts were made. There were no NC machines in this area, the closest were one-half mile away. They even brought some of their other suppliers through Ducommun and showed them the Boeing cell where the parts were made and inspected-

Ducommun asked them for an out-briefing, but none was received. They did receive a written report that basically said "send money" might still have a copy of this report).

chad

plns plant docs tranining metal fabrications

Shirle Barriel and States

The delegated source inspection status that Boeing-Wichits granted Ducommun in 1992 or 1993 was based on Ducommun's quality history. This authority covered everything except tools and first articles.

did not know if Boeing-Wichita was paying Ducommun as if the 737-NG ATA parts were made using a NC process when in fact these parts were hand routed.

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November 19, 2002

cost \$120 an hour while the Boeing cell cost about \$60 per hour.

The ATA tools for the 737-NG parts were fabricated at Ducommun in the mid-1990s -when the ATA process was just beginning...At this time there were no specifications; but the did recall some document (NFI) that he saw "after the fact" that said the parts were to be made using NC processes. Later, after Ducommun had made acceptable first articles, Boeing-Wichita created a document that let Ducommun use hand routing techniques.

But, Ducommun did make some of their first article parts (NFI) using NC processes. They then went back to hand routing as they did not have the capacity to check all of the parts using the CMM; NC parts must be checked by a CMM. Also, at this time the mill fixtures had not been completed. Once they were, they could be used as a hand tool.

Ducommun provides a certificate of conformance with the parts they sold to Boeing-Wichita. Ducommun inspectors signed off these documents, they do not physically inspect the parts and are just buying off on the paperwork (validating the operations by checking to make sure that the inspections that took place during the fabrication process showed the parts were acceptable). The traveler is kept at Ducommun.

The failsafe chords (as well as almost all of the other machined or drilled aluminum part that goes on an aircraft) were subjected to a dye penetrant inspection in order to determine if there were any cracks in them. DV Industries, Compton, CA, did the dye penetrant inspections. The bear straps did not undergo this test.

was not aware of problems with the ATA holes on the chords not lining up with the next level assembly. Ducommun made thousands of these parts for Boeing-Wichita and had an acceptance rate of over 99 percent. They had some internal failures/rejections, they were all caught before they were shipped. The chords are not serialized, they are identified with the work order number.

In mid-1998, a single lot of 24 bear straps were returned to Ducommun by Boeing-Wichita because the peripheries of the parts were "undersized." This shy edge margin (SEM) did not affect the ATA holes as they are in the middle of the bear strap. If was determined that this discrepancy was caused because the parts did not completely seat into the mill fixture. Consequently, they ended up cutting off material that should not have been cut off.

said the bear straps in question were inspected on the mill fixture and they looked good. The SEM was not discovered until after they were returned and put on stretch form block the situation, which did not occur before or after this time, was discussed with and

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November 19, 2002

Shortly after the tooling audit, Boeing-Wichita did a hardware "validation" because of the 24 bear straps with the SEM. This validation required that the source inspector (mainly buy off on the parts before they were shipped to Boeing-Wichita. (Mainteen wanted to write a supplier evaluation report (SER) pulling Ducommun's delegated source inspection status for all parts, but Boeing-Wichita said he could not a supplier thought that the second point of "heat". because of the SEM bear straps.

on the bear straps. This status was reinstated about three months later.

Other than the above-mentioned bear straps, and could not recall any other Ducommun parts being rejected by Boeing-Wichita. While Boeing-Wichita approved Ducommun's products, not their manufacturing processes, they did like Ducommun's methodology.

Statistical process control (SPC) data is used for control and to reduce the variation from part to part. CMMs, certain inspection tools, etc. collect SPC data. If recalled that the 737-NG engineering drawings, fabrication outline or contract contained an SPC requirement for all of the parts for this aircraft (including the chords, bear straps and certain machined parts). But, when the mill fixtures were built they were not built with the ability to collect this variable data.

In late 1999 or early 2000 (after the tooling audit), Ducommun got "very little" SPC data for all of the 737-NG parts. and could not recall Ducommun ever telling Boeing-Wichita that they were or were not collecting SPC data.

The lack of SPC data did not factor into the settlement between Boeing-Wichita and Ducommun. Antistated there is no correlation between non-existent SPC data and nonconforming parts being produced.

In 2000 Boeing-Wichita did another audit in which they validated that Ducommun had found some of the tools that were missing during the 1999 audit. The found not recall anything else that was reviewed at that time.

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04-APR-2002-40WC-E2

November 22, 2002

BOEING COMMERCIAL AIRPLANE GROUP Wichita; KS-----

AHF DUCOMMUN, INC. Gardena, CA

QUALITY PROVISIONS OF -2034 CONTRACT: On November 22, 2002, the reporting agent received the quality provisions that are specified in paragraph 3.6.5 ("Manufacturing and Quality") of the Statement of Work (SOW) for contract N00019-97-C-2034 (Attachment 1). These documents (Attachments 2, 3 and 4) were obtained from Special U.S. Department of Transportation, Office of Inspector General, Chicago, IL.

Attachments

Prepared by SA

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ASSIFICATION

1) Page 20 of the SOW for contract -2034, 8/29/97

2) FAA Advisory Circular 00-41B, 10/10/89

3) FAA STD 13, undated (printed on 11/22/02)

4) FAA STD 16, undated (printed on 11/22/02)

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04-APR-2002-40WC-E2

December 10, 2002

BOHING COMMERCIAL AIRPLANE GROUP 3801 S. Oliver Wichita, KS 67210

DUCOMMUN, INC. 111 W. Ocean Beach Blvd., Suite 900 Long Beach, CA 90802

THE INFORMATION CONTAINED HEREIN WAS DERIVED FROM A OUITAM COMPLAINT THAT REMAINS UNDER SEAL BY ORDER OF THE U.S. DISTRICT COURT. DISSEMINATION IS RESTRICTED.

SPECIAL INTEREST CASE TOP 100 DOD CONTRACTOR QUI TAM NO! 02-2107-KHV, DISTRICT OF KANSAS

CASE SUMMARY: On March 2, 2002, attorneys for four gui tam relators filed a complaint against The Boeing Company (Boeing), Chicago, IL and Ducommun, Inc., Long Beach, CA; allegnig numerous violations of the Federal Civil False Claims Act (31 USC,

The complaint states that from approximately 1994 to the present, Duconingin sold innumerable nonconforming parts to numerous Boeing subsidiaries, including Boeing Commercial Airplane Group (Boeing CAG), Wichita KS (relator's employer). The parts listed are structural components used on aircraft airframes and fuselages. Each Boeing aircraft. contains over 100 Discommun parts, most of which cannot be inspected by noninvasive means Reportedly, Beeing has identified all of these parts as "flight critical," meaning they are ess to the airworthiness of the aircraft. No failures of these components were noted in the complaint

The Ducommun parts are installed on Boeing aircraft, including the 737, 747, 757] 277, C-17, E 22, C-130, E 15, F-16, F/A-18 and CH-47D. These aircraft which are built by Boeing plants in Tulsa, OK St. Louis, MO Macon, GA, Long Beach, CA and Wichita, KSI were sold to commercial as well as U.S. military and Foreign Military Sales customers.

In 1999 and 2000, the realtors were members of audit teams that visited Ducommun. These teams found numerous serious manufacturing nonconformances. The teams also discovered that Dicommun had no Statistical Process Control data (which Boenin audits claimed were available) and that they had falsified non-destructive testing result Ducommun CLASSIFICATION

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December 10, 2002

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told one of the relators that Ducommun routinely omitted required inspections and that Ducommun management refused to correct quality problems.

The team's published reports and briefings to Boeing CAG management were allegedly ignored because the revocation of Ducommun's Delegated Source Inspection would result in Boeing CAG having to inspect incoming Ducommun parts. As Boeing CAG was arguably aware of the Ducommun quality violations even prior to the team's audits, all certifications by that company to the U.S. contain false statements as all aircraft contain undisclosed nonconforming parts. To date, the damages to the Government cannot be determined.

June 10, 2002, Update: The relators have been interviewed on two occasions and have provided detailed information regarding the "bear straps" and "chords" manufactured by Ducommun and used on Boeing CAG's 737-NG aircraft. The civilian version of this aircraft is the C-40A (Navy) and C-40B (Air Force). All information has been provided to the Federal Aviation Administration (FAA) that has agreed to inspect a commercial fuselage at Boeing CAG to determine if the Ducommun parts are defective and/or nonconforming. Currently, no C-40A or C-40B fuselages are available for inspection.

September-10, 2002, Update: A interviewed. While was not aware of defective parts for Ducommun was Dicommun, it was very common not to follow the proper processes or procedures when making the parts. These non conforming parts were submitted to their customers, including Boeing, for disposition were "lost" prior to a customer audit. The FAA has visited boild Boeing-Scattle and Ducommun. Sixty of these finding Ducommum bear straps and failsafe chords that were installed on a commercial fuselage were examined and appeared to be acceptable. Preliminary results of the inspection at Ducommun is that the company's new management is cooperative and they appear to be correcting problems identified by the 1999-2000 Boeing-Wichita audits. Documents supplied by Ducommun are being reviewed.

December 10, 2002, Update: Two Ducommun interviewed. Both agreed that the bear straps and failsafe chords were not critical parts. The bear straps stiffen the aircraft doors while the chords provide rigidity for the interior ceiling of the aircraft. A failure of these parts would not create any safely concerns. If these parts could be installed they would perform their functions. SOBS are scheduling interviews of two other Ducommun employees, including the Wright-Patterson AFB will perform an engineering analysis of the criticality of the bear straps and cliords. The cognizant DOI Trial Attorney has advised that she will likely decline to intervene in the gui tam if the Air Force engineer substantiates the information provided by the former Ducommun quality employees.

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04-APR-2002-40WC-E2

December 12, 2002

BOEING COMMERCIAL AIRPLANE GROUP Wichita, KS

AHF DUCOMMUN, INC. Gardena, CA

RECEIPT OF AIR FORCE RESEARCH LABORATORY MEMORANDUM: On December 12, 2002, the reporting agent (RA) received a memorindum that was authored by

Laboratory, Wright-Patterson Air Loree Hase (WPABD); Dayton, OH (Attachment 1). The RA received this memorandum from Air Force Material Command Law Office, WPAFB. Attachment 2 contains the KA's preliminary responses to the questions posed on the second page of his correspondence.

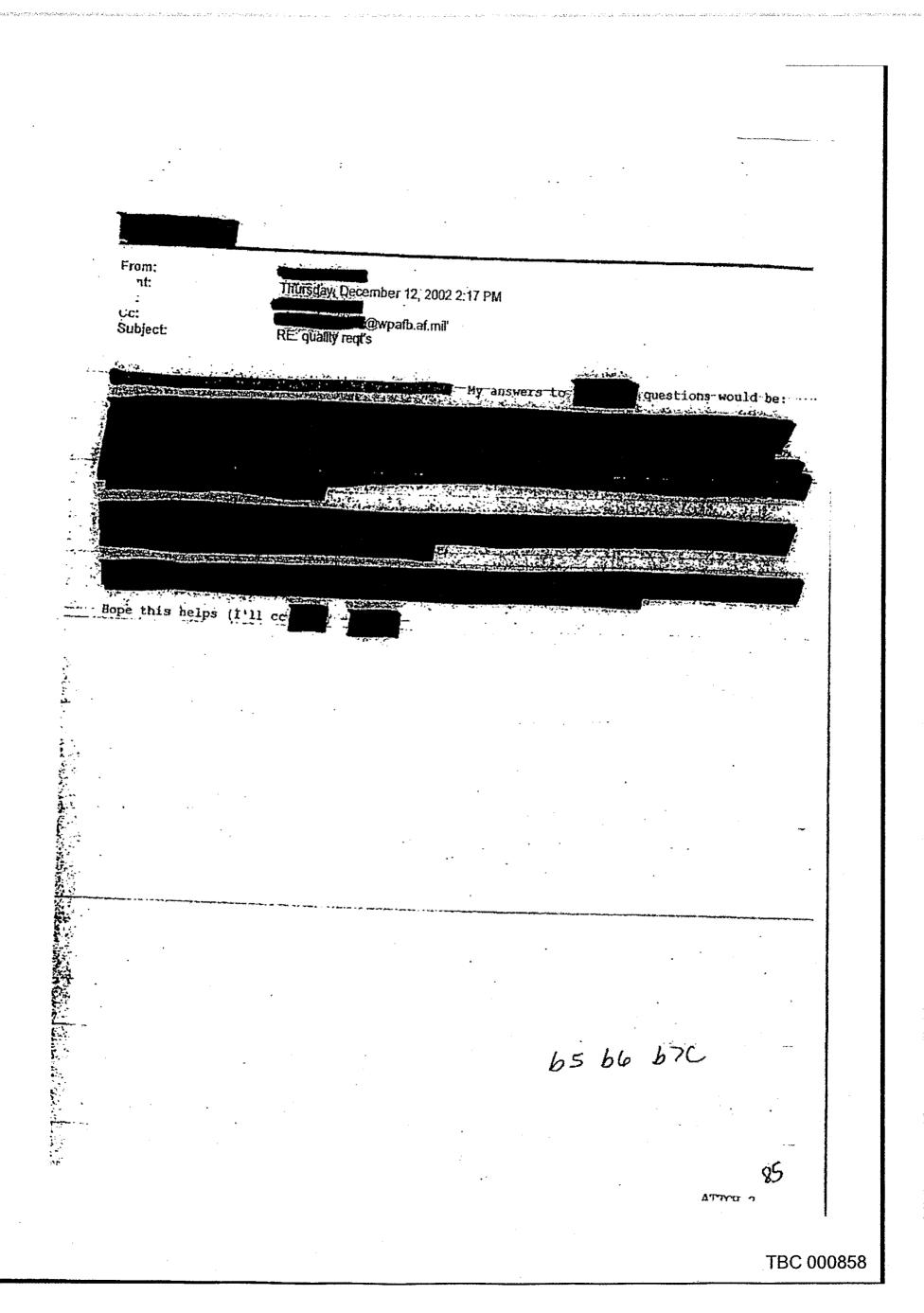
Attachment:

Prepared by SA

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1) Memorandum from 2/11/02 2) E-mail message from the RA to Trial

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· · · · · · · · · · · · · · · · · · ·	On Decen	aber 12, 2002, the RA Machment 3). A resp	approd		l questions via 3-2002 (Attachmer	t 4).
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WICHITA, KANSAS 67202-1202

-04-APR-2002-40WC-E2

December 16, 2002

BOEING COMMERCIAL AIRPLANE GROUP Wichita, KS

AHF DUCOMMUN, INC. Gardena, CA

INTERVIEW OF telephonically interviewed Management Agency (DCMA), Santa Ana, CA (310-512

On December 16, 2002, the reporting agent Defense Contract

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Department of Defense (DOD) over which the DCMA had cognizance was a contract for aircraft fairings. That contract is now closed that the only problem with this contract was that the who stated that the only problem with this contract was that the

packaging did nor contain the appropriate national stock number. His contract was that the Ducommun hadhad four other DOD contracts, but they were all "FAR Part C" so the DCMA had no involvement in them.

Neither and how the second were aware of any DCMA QAS being at Ducommun in 2001 to inspect parts that were being sold to Boeing Space Systems, Huntsville, AL.

Wichita POI



DEPARTMENT OF DEFENSE INSPECTOR GENERAL DEFENSE CRIMINAL INVESTIGATIVE SERVICE WICHITA POST OF DUTY 271 W. 3th STREET, SUITE 4020 WICHITA, KANSAS 67202-1202

03-OCT-2002-40WC-E3

December 16, 2002

THE BOEING COMPANY WICHITA DEVELOPMENT AND MODIFICATION CENTER Wichita, KS

REGEIPTE OF INFORMATION RE SAIC FROM THE DCAA: On December 16, 2002, Defense Contract Audit Agency (DCAA), Regional Special Investigations, Wichifa, KS, received a facsimile transmission from DCAA; Boeing-Wichita Suboffice, Wichita, KS; the forwarded on a memorandum (with supporting documentation) that was prepared by the forwarded on a memorandum Branch Office, Seattle, WA.

memorandum (Attachment 1) stated that in 2002 the DCAA was doing a review of Boeing-Pilget Sound's incurred cost audit reports covering 1995 to 2000. During the course of this audit they identified an issue related to a computer lease vs-buy decision in Boeing-Wichita's 2000 Accounts Payable costs. In June 2000, "Military Airplanes – Wichita Division" (which stated is the same as the "Wichita Development and Modification Center") terminated their contract with Science Applications International Corporation (SAIC) for the lease of 1,551 computers (Attachment 2). Reportedly, the \$400,000 termination fee and a \$200,000 "deinstallation charge" were passed on to the Government. Boeing-Wichita Claimed that terminating the lease with SAIC and leasing the computers from Dell would save over \$4.2 million from 2000 to 2002 (Attachment 3).

On December 16, 2002, the reporting agent (RA) contacted DCAA, North County Branch Office, San Diego, CA (858-618-

advised that her office has audit cognizance over SAIC and that the company has offices all over the country. She stated that SAIC purchased Boeing Information and Support Services (BISS), Reston, VA in July 1999, and the did not know if SAIC is continuing to lease computers to Boeing-Wichita as was previously being done by BISS.

Attachments: 1) Memo prepared by unsigned and undated pefinia to DEAR 2) Lease Computing PGIPease Termination Charges 3) Lease Cost Comparison (Boeing), 12/7/97 br Prepared by SA Wichita POD SSIFICATION WAR ING This document is the property of the Departy cut of Defense Inspector General and IS on loan to your agency. Containts may not be rectived to any party under investigation her-may this document be distributed outside to receiving agency without the specific prior authorization of the Assistant haspector General fir Investigations. "FOR OFFICE USE ONLY"



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04-APR-2002-40WC-E2

January 14, 2003

BOEING COMMERCIAL AIRPLANE GROUP, Wichita, KS (et al)

LEAD: RESPONSE: On January 3, 2003

for Digcommun, flic, was interviewed by Special (SA) ancest of the Department of Defense Criminal Investigative Mce (DCIS): Central Field Office provided the following periona information; SSM DOB: address phone numbers (home) was asked if Ducommuni life, had offered him legal representation (cell): Prior to the intervie not represented by Ducommum, Inc. attorneys and agreed to continue will the interview.

stated that lemployment at Ducommun Inc. he had been employed

Ducommunt Inc. employed linit, as

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of C17 parts; such as slat skins, bear straps and cores and forning. which were made first out of aluminum and later out of tilamium parts made by Duconinum, Inc., were for commercial contracts, noting that Ducommun. Inc. noted that all the handled very few military contracts. further stated that the parts were sold to Boeing, who in turn, may have used them on their millitary contracts, such as parts for the C40A and C40B Navy and Alf-Force airplanes respectively. for commercial light cargo/passenger planes and not milliony aircrafts where the for the stated that all parts manufactured by Ducommun, Inc., were not safety of fight of flight entical parts.

Regarding the quality of tooling used by Ducommun, Inc. that it was good was of the omnion stated that some initial design requirements were difficult to make, however, Ducommune in worked hard to meet the specifications

instance where Boenin determined initially that some tools were not up to standard, but they later. determined that it only applied to the bear straps. In addition, were returned. Dicommun, Inc., tried to fix them, if possible, if not they would be stated that when parts

tilent read a document included in this interview and was asked for his comments Stafed that he was not qualified to answer engineering question related to safety factors however, he holed that Boeing had stated that some of the bear straps were nonconformant but Ducommun disagreed with their review. further explained that the

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January 14, 2003

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issue was not with the production of the part as it was with the design. Ducommun had been given erroneous measurements, which were not caught by the dataset prior to its manufacture. He noted, in that particular instance, all parts were scrapped.

Regarding the submission of defective parts, **Second Stated** "defective parts" were submitted, but with the knowledge that they were provided "as is". **Second State** that Boeing would compare design requirements and make a determination if the part, although defective, could still be used. **Second State** had no knowledge of non-conforming parts being purposely submitted by Ducominium. Moreover, he stated that Boeing's Material Review Board (MRB) would have the last word in accepting or rejecting the use of a part by documenting it through a "Certificate of Conformance."

Regarding a verification process at Ducommun, Inc., and the stated that since the company did not have design authorization, their only recourse was to either re-work the tool or scrap it. Also, the moted that Ducommun, Inc., had a manufacturing engineer group that would review the product prior to submission to the customer. He further stated that he was not aware of any manufacturing departures in Ducommun, Inc., that may have deviated from the contract specifications with Boeing.

manufacturing stated that parts went through an MRB review by Boeing at the early manufacturing stages. He further noted that it was a continuing process, parts would be submitted, Boeing would then; give a disposition to buy a form or to forward a report regarding the part for further re-evaluation by Ducommun, Inc. Regarding the bear straps, Boeing deemed them non-conforming but Ducommun, Inc. believed them to be accurate. Later, it was established that the issue was not the bear strap but the assembly process. The problem was corrected by drilling pre fabricated Advanced Technical Assembly (ATA) holes to avoid additional tooling. Stated that could not estimate the affect of consequences of using a short part, noting that it was an engineering and design question. The stated that the rejected bear straps, were taken out of inventory and later either scrapped or used if deemed usable. But he remembered that all bear straps were destroyed.

straps. He also noted that he would not be familiar with the 1999 Supplier Evaluation Report (SER), since the would not be familiar with the 1999 Supplier Evaluation Report that BOEING had contracted with AMSI (Ducommun 8 competition) to manufacture the parts in question.

Regarding the fail-safe chords mentioned in the report, the stated that they go around the fuselage, but he does not know their exact function. Moreover, he was also not aware that the ATA holes did not line up and was surprised that Boeing never brought that issue to his attention. Moreover, the state the parts were assembled on a fixed location.

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January 14, 2003

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which allowed the use of additional fasteners or holes in their places, but he did not know if that process affected the design.

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Regarding the parts being made by hand instead of via a Numeric Control (NC) process, stated that by using the hand-made process Ducommun, Inc., would meet the requested 30% ieduction in price asked by Böeing. He further noted that the process was not only cheaper but it also created more capacity for some parts, such as the bear straps, and also noted that Ducommun, Inc., charged the same price for either manufacturing process.

was data used to show variance of measurements, such as ATA holes. He further noted that it was virtually impossible to apply the principle to all products. Boeing would identify keys on certain parts to show variances at one time bill the SPC portion was not there. Sometime later, Ducommun, Inc., went back and manually re-inspected and collected the SPC data to be in 100% compliance. It was his understanding that the Quality Assurance department was responsible for the collection of the data. The manually re-inspected that the SPC data to be in 100% the collection of the data. The manually re-inspected that the Quality Assurance department was responsible for the collection of the data. The manually define anything was done. He did not recall the name of the person who there in the principle in the further noted that the SPC data was not a big issue while he was there, because Difference in the further noted that the SPC data was not a big issue while he was there, because Difference in the further noted that the SPC data was not a big issue while

testing and never failed to do the required final inspections. The provided all the required non-destructively Ducommun, Inc., conducted final inspections. The provide all the required final inspections and provide all the required final inspections. The provide all the required him at the time of the on site fooling audit conducted by Boeing.

Regarding his November 13, 2002 telephonic interview with the Government about his conversation with Boeing's Security employed the security of the security employed the security employed the security of the security employed the security of the security employed the security employed

Regarding a 2001 settlement between Dilcommun. Inc., and Boeing, Stated that he did not have any first hand information, only rumors that Ducommun. Inc.

Regarding other independent audits conducted by other customers. He mentioned that he was aware of an old investigation in Long Beach, California, dealing with the C-17's, where some Boeing procurement people were paid

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04-APR-2002-40WC-E2 January 14, 2003 off. He stated that he had heard rumors that in this case. Regarding the quality of the product manufactured by Ducommun, Inc., that the company had a lot of good people and did not believe that they would compromise stated also stated that he would not know if Boeing was culpable. He was of the opinion that a company like Boeing would not have any problems in rescinding Ducommun's delegated source inspection authority. Regarding available documents that would further the investigation, most of the information relevant to the issues would be in the Manufacturing and planning stated that documentation; 1st Article documentation, tool inspection records and any other contracts associated with tools and inventory, stated that he did not keep any documents pertaining to his employment with Dicommun, Inc. Regarding DCIS contacting other individuals associated with Discommun, Inc., he noted that may have some limited information regarding the implementation of. DOPTIM HOWEVER was employed there for a very short period and because individuals signas led others Ducommun, Inc., and Ducummun employee: was asked for any final comments concluded by saying that he would be available for any future interviews, if necessary New Col Prepared by SA Central FO APPF <u>___</u> CLASSIFICATION: and the second 95 **G** : * * * FOR OFFICE USE ONLY This document is the property of the Dena int of Defense Inspector General and is disclosed to any party under investigation on loan to your ogency. Containts may not nor may this document be distributed outs the receiving agency without the specific prior authorization of the Assistant Inspector General for Investigations



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January 21, 2003

BOEING COMMERCIAL AIRPLANE GROUP Wichita, KS

AHF DUCOMMUN, INC. Gardena, CA

RESULTS OF FAA QUERIES: On January 15, 2003, the reporting agent (RA) sent an electronic mail message to

Administration (FAA): Washington, DC and FAA, Los Angeles Manufaching Inspection District Office Larewood, CA (Atlachment FA), The RA asked and and a solution of the 737-NO parts made by AHF Ducommum, Gardena, CA that are listed on Attachment 2 have been the subject of any type of FAA discrepancy report.

On January 16, 2003 (Section of the FAA's 'PRS' (Parts Reporting System) did not show that any of the felerenced part numbers (P/Ns) have been the subject an unapproved parts report (Attachment 1-B). (Section of the PRS is the PAA's SUP's Program database. The FAA tracks all of the removes tigations in this system. They can query the system to find parts, names, companies, etc. The FAA can use the data to see if trends are beginning, etc. The system also houses the electronic version of the FAA's case files.

On January 17, 2003, Stated that, by regulation, airline carriers are required to use SDRs (Service Difficulty Reports) to report certain malfunctions to the FAA. Reference: 14 CFR 121.704 (Affacilment 3), SSDs are Significant Service Difficulty reports. On January 21, 2003, FAA, Los Angeles Aircraft Certification Offices Pakewood, CA stated that the SSD database does not usually contain P/Ns (Attachment 4).

the FAA's Scalle Aircraft Certification Office (ACO) in June 2002, Construction of the P/Ns that are on Attachment 2 to Seattle ACO's response to the RA on July 10, 2002 (Reference: DCIS Form Fidned July 10, 2002).

In summary, the Seattle ACO had reported that the FAA SUP Program calegorizes the suspect parts as "Galegory 2" (as opposed to Principal Structural Elements) parts, meaning that their failure would not prevent the continued safe flight and landing of the aircrafts A Boeing-FAA on that Base program calegorizes the told the

FAA on the service profilems).

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