



communications
Integrated Systems

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Department of the Air Force
866 AESG/JCA
2275 D Street Bldg 16, Rm 149
Wright Patterson AFB, OH 45433-7239

Attention: Mr. James Leighty, Contracting Officer
(via email: [REDACTED])

Subject: Contract W58RGZ-07-D-0099, Notification of Suspect Electronic Components

Dear Mr. Leighty:

L-3 Communications Integrated Systems (L-3/IS) has been notified today by its major subcontractor and supplier, Alenia Aeronautica, SpA, of the inclusion of suspect electronic components in several avionics items within the Joint Cargo Aircraft C-27J hardware previously delivered to the Government. These involve the Bus Adapter Unit (BAU) Type I provided to Alenia by Goodrich and the Color Multipurpose Display Units (CMDUs) provided to Alenia by L-3 Displays. This information has been received as part of ongoing dialogues and discussions related to queries from the SPO and other US Government agencies in the past week. The details as we know them are as provided below.

Bus Adapter unit (BAU) Type I (Goodrich Part Number 30106-01)

Alenia Aeronautica has reported to L-3 Communication Integrated Systems that it was notified by Goodrich of suspect, unapproved parts in several of the Type I BAU in August 2009. Although Alenia issued internal instructions to locate the affected BAU serial numbers and to return them to Goodrich, these parts were not retrieved prior to the delivery of the C-27J aircraft to L-3 Communication Integrated Systems and subsequently to the Government. Before 19 September 2011, no notification of this issue in the C-27J program has ever been provided by Alenia to L-3 Communications Integrated Systems nor, to the best of Alenia's knowledge, to the US Government.

Goodrich communications indicated that the use of the suspect parts would not constitute a safety issue. Alenia performed an engineering assessment of the nonconformity configuration as installed on C-27J and determined that there is no safety of flight issue associated with this discrepancy, and that no critical failure modes which would compromise the safe operation of the aircraft have been identified (i.e., there are no catastrophic hazards associated to a failure of the Bus Adapter Unit Type I). Alenia believes that this conclusion is consistent with the engineering analysis performed by Goodrich.

Goodrich advised that the affected BAUs can be recalled for rework/replacement/repair at the Government's convenience. A Service Bulletin is being prepared by Alenia to provide directions for this removal and processing of the affected BAUs. The details of the release dates and processing will be coordinated with the Government to minimize disruption to the JCA C-27J fleet operations.

Color Multipurpose Display Units (CMDU) L-3 Part Number 104000-603

In December 2010, L-3 Display Systems issued a formal Alert via the Government Industry Date Exchange Program (GIDEP) for a series of Samsung 4 MegaByte Integrated Circuit Video Random Access Memory (VRAM) chips used in CMDUs and Multi-Function Control Displays (MFCDS) installed on the Alenia C-27J and other aircraft.

The initial issue was discovered internally in L-3 Displays through a perceived increase of failures during testing of the displays. Subsequent detailed investigation and additional testing imposed by L-3 Displays and performed by external laboratories confirmed that in numerous instances the VRAM chips had been remarked. This was traced to a single lot code.

A failure assessment was performed, and safety assessments of the results ensure that no reduced performance has been reported or exhibited in the field operation. The types of failure possible from failures of the VRAM chips include degraded visual imagery on the display or blank screen/loss of the display. No CMDU components that failed the L-3 Displays internal screening process were ever issued for installation or delivery to Alenia Aeronautica or any other customer.

In the same month, L-3 Displays notified Alenia that it had identified a series of suspect electronic component installations involving CMDUs previously delivered for the Alenia C-27J aircraft program. The occurrence of the suspect part included nearly 100 CMDUs delivered to Alenia Aeronautica for use in the C-27J product line, which includes aircraft, spares, flight simulator and test rig units.

Alenia performed engineering/safety assessment using all available information and test results provided by L-3 Displays and concluded that no inspection on the suspect assembly was necessary. Also, no recall action on the items was requested by L-3 Displays. No Service Bulletin was issued by Alenia Aeronautica, since no recall was requested. Prior to 19 September 2011, no notification was ever made to L-3 Communications Integrated Systems nor to the US Government regarding the suspect items in the L-3 Displays CMDU delivered for the C-27J program.

Monitoring in services CMDUs was performed and no relevant changes in failure percentages were noticed (the failure rate of CMDUs in operation has remained unchanged).

The table below identifies the serial numbers of the CMDUs containing the suspect VRAM chip that are installed on, or intended for use in, the US Government JCA C-27J program. This information reflects what was installed on each aircraft at the time of delivery to L-3 Communications Integrated Systems. There have been very few changes to the installed configurations since delivery to the US Government.

CMDU Serial Number	Installed on C-27J Aircraft
4093	Spare Part
4106	USAF 8
4044	USAF 3
4045	USAF 3
4049	USAF 3
4053	USAF 3
4054	USAF 4
4060	USAF 4
4061	USAF 4
4062	USAF 4
4074	USAF 10
4076	USAF 7
4077	USAF 7
4079	USAF 6
4081	USAF 8
4082	USAF 10
4083	USAF 8
4085	USAF 10
4086	USAF 7
4087	USAF 10
4088	USAF 10
4091	USAF 7
4092	USAF 7
4100	USAF 6
4101	USAF 6
4102	USAF 6
4104	USAF 8
4105	USAF 6
4121	USAF 11
4122	USAF 11
4123	USAF 9
4126	USAF 9
4127	USAF 9
4128	USAF 9
4130	USAF 9
4137	USAF 11
4139	USAF 11
4140	USAF 11

We are working to determine more of the exact details regarding this issue and will provide additional dialogue and materials to the C-27J SPO in the near future. For questions regarding this matter, please contact Greg Bruich at [REDACTED] e-mail [REDACTED]@l-3com.com. For contractual correspondence, please contact Kimberly Kachura at [REDACTED] e-mail [REDACTED]@l-3com.com.

Sincerely,

**L-3 Communications
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Platform Integration Division**



Kimberly Kachura
Contracts Manager
C-27J Programs