

The following slides are not contractual in nature and are for information purposes only as of June 2015.



Corrective Action Webinar

Topic 3: CAR Levels & Criteria



Agenda



- **Introduction**
 - **Webinars 1 & 2 Summaries**
 - **Webinar 3 Objectives**
- **Start With the Basics**
 - **What Is a CAR?**
 - **When Is a CAR Used?**
- **Command Media**
- **CAR Levels**
- **CAR Criteria: Response Times and Delinquencies**
- **Supplier Quality Rating**
- **Summary**
- **Q & A**

Webinar 1 Summary:

Corrective Action: Command Media Expectations



- **Corrective Action Requests (CARs):**
 - A vital part of continuous process improvement
 - Required by AS9100C in Aerospace QMS
- **Normative Documents**
 - AS9100C, ISO 9000, ISO 9001
- **QX:** Flows quality requirements down to supplier POs
- **Supplier Approval and Control** procedure authorizes and directs SQM to issue CARs for non-conformances

Webinar 2 Summary: CA Internal Procedures and Expectations



SQM Corrective Action Tools

- Corrective Action Requests
- Supplier Excellence Plans
- Oversight Assessment Tool Heads Up Display (OAT HUD)
- Supplier Disclosures
- Supplier Quality Ratings
- Supplier Performance Reports

LM Aero Procedures, Requirements & Standards

- Supplier Approval & Control
- Corrective Action Tasks For All Lockheed Martin Aeronautics Manufacturing Programs
- Supplier Disclosure Letter
- AS9100 Quality Management Systems - Requirements for Aviation, Space and Defense Organizations
- QX Appendix to purchase orders

Webinar 3 – CAR Levels & Criteria



Provide training in CAR requirements, levels, and relevant criteria, including:

1. What a Corrective Action Request (CAR) is and when it is used
2. What determines the CAR level
3. How to determine appropriate Supplier response times and delinquencies
4. CAR impacts to the Supplier's Quality Rating

The Basics: What is a CAR?



A **Corrective Action Request (CAR)** is a formal notification from a Supplier Quality Management (SQM) source, requesting the cause of nonconformities of a product, process, or service be eliminated, with the objective of preventing recurrence.

A CAR is submitted to a Supplier when a **significant*** problem threatens our production schedule.

The nonconformity cause is suspected to be a Supplier problem or shared LM Aero/Supplier problem with product or workmanship.

***Significant** is a term of importance to CAR criteria and is detailed in slide 24. To summarize, a significant problem may be a repetitive or recurring one, may affect health or safety, may have been requested by the customer or program, may impact form, fit or function. A CAR may also be submitted in response to a Supplier Disclosure or audit results.

The Basics: When is a CAR used?



LM Aero SQM initiates a CAR when:

- A Supplier-responsible issue affects Safety of Flight
- A Supplier non-conformance is repetitive, occurring more than once in a ninety day period
- A CAR request has been made by the Customer, LM Aero Engineering or SQM Management
- Supplier is determined responsible for **Significant*** issues
- **Systemic Issues*** exist
- Identified issues affect a **Critical Program Impact***

Before a CAR is issued, there should be dialogue with Supplier regarding the issue and the CAR. The Supplier Quality Engineer should also talk with program integrator/internal QE regarding any other issues.

** Significant issues: Criteria for “significant” is summarized on slide 6 and detailed on slide 24*

** Systemic Issue: A problem that goes beyond the scope of the actual non-conformance and if not corrected, will continue to recur at the same or varying degrees of severity.*

** Critical Program Impact: Issues that appear to critically impact single or multiple programs with significant quality consequences or have the potential for impacting the quality of supplier product, manufacturing of LM products, or delivery of LM products to customers.*



- **AS9100C, Section 8.5.2, Corrective Action**
- **Supplier Approval and Control procedure**
 - *Issuing a CAR and criteria for determining CAR levels*
 - *Analyzing Supplier CAR responses*
- **Corrective Action Tasks For All LM Aeronautics Manufacturing Programs procedure**
 - *Authority, responsibility and tasks of the CA process*
 - *CA vocabulary*
- **QX Appendices**
 - *LM Aero Quality Requirements levied in Supplier POs*
 - *Designed to ensure effective Corrective and Preventive Actions*
 - *Section 2.2 addresses corrective actions reporting but additional sections target non-conformances, counterfeit parts and other pertinent text*

CAR Levels



CAR Discrepancy Information	
CAR Level *	Level 2 - Included in Rating
Category Information	Type of Corrective Action Request
Affected Site *	Choose a Site
Number of Findings: *	
Required Response Days	
Defect Code	
PSP	
Part Number	
Tool Number	Tool Code
Requirement Document *	
Description of Requirement	
	1500 characters still available
Description of Discrepancy	
	4000 characters still available
Buyer Name	Customer Concur Required (Y/N): No
Customer Name	
Is this a re-occurrence? *	No
File Attachment:	Browse...
Instructions: You may upload a single file with a maximum file size of 1MB. If you need to upload multiple files, zip your files using a Zip program and then upload the Zip file. To update the attachment upload a new attachment.	
Submit Corrective Action Request	

Select CAR level based on guidelines provided in *Supplier Approval and Control procedure*

CAR Levels (con't.)



Supplier Approval and Control procedure provides the guidelines for selecting a CAR level

A Level 1 CAR does not impact a Supplier's Quality Rating!

For a CAR to be Level 1, it must meet the following criteria:

- **No special or systemic correction is required**
- **The issue can be corrected in an expedited manner**
- **This is not an item of Critical Program Impact***
- **This is not a Safety Of Flight issue**
- **The issue is not considered systemic, significant or recurring**

A Level 1 CAR does not affect the Supplier Quality Rating

Level 1 CAR Example, Page 1 of 2

=====CORRECTIVE ACTION REQUEST=====

To: [REDACTED]

Item Number: 19346-1(Level 1 - Excluded from Rating)
Issue Date: 05/09/2013
Date Due: 12/02/2013(Severity Level 3 - 15 Response Days)
Part Number: [REDACTED]
Tool Number:
Tool Code:

Attn: [REDACTED]

Type of CA Request: Quality System Element
Program: F-22
Defect Code: Quality System Discrepancy
PSP: N/A
Initiating Site: Fort Worth
of Findings: 1

LM Contacts: [REDACTED]

Note a Level 1 specifies it is excluded from the quality rating; also note the response time based on severity level. We will discuss that shortly.

Reference Document(s): QX Rev 3 through 7

Requirement:

QX Records Requirement Par: Seller shall maintain complete records of all manufacturing, inspection, test, CofC, shipping, & process capability&. Seller shall make records available for at least three years after completion of the PO or for longer periods if specified elsewhere in the PO.

Finding(s):

LM Aero and SPO requested verification that CCA's built for Lots 4 & 6 were ESS tested and records to prove it. [REDACTED]
Project requirement for retention of thermal chart recordings for CCA's was not in place until June 2012.

Re-occurrence: No

Non-recurring is confirmed here

LM Originator [REDACTED]
E-mail Address- [REDACTED]
CAR Owner:

Telephone- [REDACTED]

Note supplier's response

=====SUPPLIER RESPONSE =====

Corrective Action Acceptable: Yes
Cause Code: Test

Response Summary:

Retention of records for the CCA's built for Lots 4 and 6 is consistent with the Qx documents, [REDACTED] QMS and Records Management policies [REDACTED]
[REDACTED] Records Management Program) in place during the period of performance of the Lot 4 and 6 contract.

Containment Actions:

Systems delivered under the Lot 4 and 6 contract.

Root Cause Analysis: Not required

Level 1 CAR Example, Page 2 of 2

Supplier Corrective Action:

Retention of records for the CCA's built for the Lots 4 and 6 contract is consistent with the [redacted] and the Records Management policy in place during the period of performance of the contract.

Effective Date: 11/13/2013

Follow-up Due Date: 12/12/2013

CA FOLLOW-UP

Note this text is part of the CAR template and appears on all CARs

Follow-up Acceptable: Yes

Follow-up Date: 12/12/2013

New Follow-up Due Date: 12/12/2013

IMPORTANT

A request for corrective action has been generated. Please respond to all of the Lockheed Martin Contacts and the initiator. Failure to respond by the due date may result in suspension of hardware deliveries and may be cause for new Purchase Order Lockout. Extensions will only be granted for special circumstances and must be submitted and approved by the due date. Please complete a root cause and corrective action statement in the linked document for each of the discrepancies stated.

COMMENTS

Date Created: 12/03/2013

Created By: [redacted]

Comment Type: Supplier Response

Comments:

CAR response reviewed with IPT's on 12/3/13, agreement that data provided is the record of completion.

Note the outcome

Date Created: 11/02/2013

Created By: [redacted]

Comment Type: Due Date Extension

Comments:

Revised CAR response submitted to [redacted] Program for review and concurrence. CAR due date extended to allow the program time to review.

Date Created: 09/17/2013

Created By: [redacted]

Comment Type: Due Date Extension

Comments:

[redacted] extension request approved by LM Lead on 9/17/13.

Updated several times by the SQE

Date Created: 08/16/2013

Created By: [redacted]

Comment Type: Supplier Response Rejected

Comments:

Review of QX back to Rev 3 states Seller shall: a. maintain complete records of the all manufacturing, inspection, test, CoC, and shipping; and process capability or tooling controlled per TMS-MC-015, if applicable; and make records available for at least three (3) years after completion of this PO or for longer periods if specified elsewhere in this PO. Objective evidence is required for all CCA's in Lots 4 & 6 to validate that CCA's were tested in accordance with engineering requirements.

Date Created: 07/17/2013

Created By: [redacted]

Comment Type: Due Date Extension

Comments:

Due date extended to allow [redacted] time to review archived charts found for Lots 4&6

Date Created: 05/09/2013

Created By: [redacted]

Comment Type: Request Modified

Comments:

Added Program and changed affected site

RESPONSE FORM

Access the following website to document the corrective action response (Choose Corrective Action response form):
http://www.lockheedmartin.com/us/aeronautics/materialmanagement/scm-quality_forms.html



CAR Levels (con't.)

A Level 2 CAR impacts a Supplier's Quality Rating by -2 pts.

Level 2 Criteria:

- **Systemic issues*** exist, adversely affecting Seller's quality performance and supporting processes
- Issue affects cost, schedule or performance
- Issues are **significant**, **repetitive** or **recurring** (e.g., consider existing QARs, SQARS)
- Issues involve **Critical Program Impact** item
- Issues involve Safety of Flight
- Issues involve critical safety items

Level 2 CARs negatively impact the Supplier Quality Rating

** Note: Terminology is defined on slides 6 & 24*

Level 2 CAR Example, Page 1 of 2



===== CORRECTIVE ACTION REQUEST =====

To: [Redacted]

Item Number: [Redacted] (Level 2 - Included in Rating)
Issue Date: 03/22/2012
Date Due: 04/20/2012 (Severity Level 2 - 10 Response Days)
Part Number: [Redacted]
Tool Number: [Redacted]
Tool Code: [Redacted]

Attn: [Redacted] Type of
CA Request: Supplier QA Contact Hardware Discrepancy

Program: [Redacted]
Defect Code: Hardware Discrepancy
PSP: N/A
Initiating Site: Georgia
of Findings: 6

Note that a level 2
CAR deducts 2
points from the
Supplier Quality
Rating!

LM Contacts:

[Redacted]

Why a Level 2 CAR?

Reference Document(s): AS 9100 B

Requirement:

8.2.4 Monitoring and Measurement of Product: The organization shall monitor and measure the characteristics of the product to verify that product requirements have been met. This shall be carried out at appropriate stages of the product realization process in accordance with the planned arrangements.

Finding(s):

THE [Redacted] HAS SIX DELIVERED
UNITS WHERE THE GUIDE PINS ARE MISALIGNED AND WILL NOT ALLOW THE CONTROLLER TO SEAT ONTO
THE GUIDE PINS. REFERENCE QARs [Redacted]. No Root
Cause/Corrective Action has been provided.

Re-occurrence: No

LM Originator: [Redacted]
E-mail Address: [Redacted]
CAR Owner: [Redacted]

Telephone: [Redacted]

Level 2 CAR Example, Page 2 of 2



===== SUPPLIER RESPONSE =====

Corrective Action Acceptable: Yes
Cause Code: Dimensional Error

Note supplier's RCA & CA

Response Summary:

Containment Actions:

Root Cause Analysis:

The set up was changed in the middle of a production run and was not verified by re-inspection because the routing did not explicitly call out the standard work requirement for set up re-verification after change.

Supplier Corrective Action:

100% inspection of inventory performed at the vendor and they properly disposed of any discrepant parts. Also, 100% inspection operation will be added to the Work Order of the -7 bracket for immediate control of nonconforming parts. Additional training will be done with operators to stress the importance of having parts re-inspected if any changes occur during production run as well as the importance of self inspection. Statement added to all Work Orders "Any changes to tooling or set-up during production run requires first article re-inspection." Supplier is to create a go/no-go gauge to enable a quick verification of the suspected area upon receipt from the vendor. Estimated completion of this is by the end of May 2012.

Effective Date: 05/30/2012

Follow-up Due Date: 06/29/2012

===== CA FOLLOW-UP =====

Follow-up Acceptable: Yes

Follow-up Date: 06/29/2012

New Follow-up Due Date: 06/29/2012

===== IMPORTANT =====

A request for corrective action has been generated. Please respond to all of the Lockheed Martin Contacts and the initiator. Failure to respond by the due date may result in suspension of hardware deliveries and may be cause for new Purchase Order Lockout. Extensions will only be granted for special circumstances and must be submitted and approved by the due date. Please complete a root cause and corrective action statement in the linked document for each of the discrepancies stated.

===== COMMENTS =====

Date Created: 07/03/2012

Created By: [REDACTED]

Comment Type: Follow-up Notes

Comments:

Dimensional data on 10 units has been verified to ensure compliance of guide pins. Vendor is manufacturing 5 go/no-go gauges to increase reliability. PVR was completed on 10 units post RCCA implementation. No Issues noted.

Date Created: 04/23/2012

Created By: [REDACTED]

Comment Type: Supplier Response

Comments:

Response amended to add [REDACTED] implementation of the go/no-go gauge for verification of guide pin alignment.

Access the following website to document the corrective action response (choose Corrective Action Response form):
http://www.lockheedmartin.com/us/aeronautics/materialmanagement/scm-quality/scm-quality_forms.html

CAR Levels (con't.)



A Level 3 CAR is initiated by SCM/SQM Senior Mgmt.

- Before a Level 3 CAR occurs, an elevation process begins with you and your lead and proceeds through your manager and senior manager, to the director
- Elevation process includes discussion of Supplier performance record, including Letter(s) of Concern, Supplier Disclosures, Level 2 CARs, and poor or no Supplier responses
- A Level 3 CAR is a written letter, detailing serious contractual non-compliances
- Requires Supplier acknowledge receipt and understanding, with a due date
- Requires Supplier Root Cause Analysis (RCA) and Corrective Action Plan (CAP), with due dates
- Requires elevation of supplier's oversight level to Focus
- It may impact the Supplier Quality Rating → SQM Mgmt. decision
- It may be coupled with contractual remedies.
 - *For example, disapproval of Supplier's quality system*
 - *Determined at SCM/SQM Director's level or above*
- The Signatories for a Level 3 CAR are at the Director Level or above

A SCM/SQM Senior Management Level 3 CAR is the result of an elevation process that determined the Supplier's contractual non-compliances warrant a letter to the Supplier President and General Manager, requiring immediate acknowledgement, RCA & CA.

Level 3 CAR Example 1, Page 1 of 4

Last Year's Approach Using Fictional Supplier



July 26, 2013

Leonard's Farm & Ranch
65 Main Street USA
Podunk, STATE 030606909

Attention: John Smith, Vice President Performance Excellence, Electronic Systems

Subject: Lockheed Martin Aeronautics Company Level III Corrective Action Request (CAR) LMQA-2014-001 – Unacceptable Quality Performance on Lockheed Martin Aeronautics Company F-16, F-35, F-22 and F-2 Contracts

To ensure complete and dependable Mission Success for our Customers, Lockheed Martin Aeronautics (LM Aero) Company and our suppliers must commit to and maintain a high standard of excellence in the areas of quality, delivery, and affordability.

Several recent and significant quality issues have impacted Lockheed Martin Aeronautics Company Quality and Delivery. These quality problems indicate your quality systems and processes are inadequate to ensure fully conforming your products are available to support the build and delivery of the F-16, F-35, F-22 and F-2 Programs.

Recent evidence of your quality shortfalls:

- Over the past year there have been 14 Systemic CARs issued for hardware issues, missed deliveries, Functional Failure, DCMA CAR, and Control of Sub-tiers. These issues disclose a lack of system control and discipline.

Level 3 CAR Example, Page 2 of 4



- Failed to notify Lockheed Martin within 10 days of Government CARs issued as required by Appendix QX 1.1 (Revision 7).
- 9 Supplier Disclosure Letters (SDLs) and 23 Quality Assurance Reports (QARs) indicate escapes which should have been found at your facility. These SDLs and QARs require LM Aero Resources to initiate, process and perform the work. In addition, they show your reliance on LM Aero MRB to build and ship product.
- In addition to LM Aero findings, the DCMA has found and documented multiple CARs for systemic issues this year.

LM Aero SQM expects your acknowledgement of this CAR within 5 days and respond within 30 days. Response to this CAR shall, as a minimum, include:

- Actions taken or planned to prevent recurrence of further quality escapes that impact Lockheed Martin Aeronautics Programs
- Root Cause identification of the quality performance problems
- Corrective Action plan to correct the causes
- Improvement expected as a result of planned actions
- Target dates for implementation of planned actions
- Responsible persons to complete the planned actions
- Schedule to provide update to LM Aero on completion of the planned actions and their outcome.

The Root Cause and Corrective Action will be verified and validated for sustained performance as part of closing this Level III CAR.

Level 3 CAR Example, Page 3 of 4



Failure by you to respond with and execute a comprehensive Corrective Action Plan that improves quality performance may result in contractual action by Lockheed Martin Aeronautics Company that may include cost impact recovery and or termination.

Nothing in this CAR should be construed as a contractual change to any existing contract.

Should you have any question, please contact your LM Aero Supplier Quality Engineer or Procurement Representative:

William Willco
Procurement Representative

Robin Peter
Procurement Representative

Pay N. Paule
Supplier Quality Engineer

Regards,

Sheelby Spendin
Vice President
F-35 Supply Chain Management

Makina Purchase
Director
Supply Chain Management, IFG

Gunna Dorigt
Director
Supplier Quality Management

Level 3 CAR Example, Page 4 of 4



Supplier Acknowledgement – LM Aero Level III CAR LMQA-2014-01

Dated: 26 July 2013

Leonard's Farm & Ranch
65 Main Street USA
Podunk, STATE 030606909

Attention: John Smith, Vice President, Performance Excellence, Electronic Systems

Subject: Lockheed Martin Aeronautics Company Level III Corrective Action Request (CAR) LMQA-2013-001 – Unacceptable Quality Performance on Lockheed Martin Aeronautics Company F-16, F-35, F-22 and F-2 Contracts

Name (Printed)

Title and Date (Printed)

Signature

Level 3 CAR Example 2, Page 1 of 3

New Approach



February 22, 2014

Leonard's Farm
65 Spitting Creek Rd
Podunk, OH 030606909

Attention: John Smith, Vice President Performance Excellence, Electronic Systems

Subject: Letter of Concern Regarding Unacceptable Performance on Lockheed Martin Aeronautics Company Contracts

Leonard's Farm's quality performance noted herein is not meeting the Quality Excellence standards Lockheed Martin Aeronautics Company has committed to maintaining in the products that we procure and deliver to our customers. Simply stated, the expectation is "Right the First Time and All the Time Quality". Supplied products must meet the "Right the First Time and All the Time Quality" expectation, must be manufactured without supplier MRB processing, must install and operate on our aircraft without rejection throughout the production process, and must meet established life and performance requirements.

LM Aeronautics has identified the below quality concerns related to Leonard's Farm's quality management system:

7.2.2 Review of Requirements Related to the Product - The organization shall review the requirements related to the product. This review shall be conducted prior to the organization's commitment to supply a product to the customer....

Evidence:

- a. CAR 19960 for Inadequate Specification/Contract Review for heat treat aging requirements

8.2.1 Customer Satisfaction - As one of the measurements of the performance of the quality management system, the organization shall monitor information relating to customer perception as to whether the organization has met customer requirements.....

Evidence:

- a. Requested monthly metrics have not been provided and/or do not exist for tracking of LM non-conformances and/or corrective actions taken
- b. No buy-in to supplier excellence plan for issues/concerns identified by LM Supplier Quality Engineer
- c. Delivery performance suffered due to product being pulled late from stock and presented for source acceptance (Delivery rating: Dec'13: 79.25%; Jan'14: 90.91%)
- d. Quality rating decline of 15% in 2013

Level 3 CAR Example 2, Page 2 of 3



Evidence:

- a. 8.5% rejection rate during LM product acceptance since August 1, 2013
NOTE: This number does not include multiple documentation errors and/or omissions in product data packages presented to LM SQE during source acceptance
- b. FAI rejected for incorrect tolerances & engineering revisions
- c. Product with wrong material and wrong finish

8.4 Analysis of Data - The organization shall determine, collect and analyze appropriate data to demonstrate the suitability and effectiveness of the quality management system ...

Evidence:

- a. See a – c in 8.2.1 Customer Satisfaction above

8.5.2 Corrective Action - The organization shall take action to eliminate the causes of nonconformities in order to prevent recurrence....

Evidence:

- a. Twice failed to respond to CAR 20310 NOTE: CAR response is still delinquent
- b. CAR 20172 for six (6) source rejections for same discrepancy (part marking and pkg)

Lockheed Martin Aeronautics Company Supplier Quality Engineer, Lloyd Ligature, will be contacting your company to set up a time to review and analyze the data supporting the identified concerns and ensure a common understanding of these same concerns. Within 30 days of this meeting the development of a comprehensive Corrective Action Plan (CAP) will be required of Leonard's Farm, L. P. The CAP should include, as a minimum, the following:

1. Details of quality issues/concerns/non-compliances/previous requests
2. Details/findings of Root Cause Analysis
3. How Leonard's will address each system nonconformance and any issues which allowed the nonconformance to exist
4. Short term corrective actions/interim plans until long term preventive actions are in place to prevent recurrence of further quality escapes impacting affected Program(s)
5. Long term corrective actions and preventive actions
6. Containment plans
7. Improvement expected as a result of planned actions
8. Target dates for implementation of planned actions
9. Responsible parties and contact information
10. Completion date of plan (date after Leonard's completes their internal validation of effectiveness of plan)
11. Schedule of planned reviews to ensure plan is being implemented as scheduled (i.e., monthly reviews, weekly reviews, etc.)- Periodic reviews should include, as a minimum:
 - Progress made to the plan
 - Outcome/effectivity of completed actions
 - Metrics that track performance and effectiveness of the plan

Failure to identify and implement preventative and sustainable actions may result in suspension or disapproval of your quality management system. As a result of the above quality performance concerns, Lockheed Martin Aeronautics Company will increase our level of oversight at

Level 3 CAR Example 2, Page 3 of 3



Leonard's Farm, L.P. until such time as the milestones identified in the Corrective Action Plan are attained and improved performance is sustained.

Please acknowledge receipt of this letter by completing and signing the last page of this letter and returning it to your Supplier Quality Engineer within 7 days of its receipt. If you have any questions regarding the above quality concerns, please contact your Lockheed Martin Supplier Quality Engineer or for other related contractual issues contact your Lockheed Martin Aeronautics Buyer.

Supplier Quality Engineer:	Lloyd Ligature	(817) 777-7777
Buyer:	Luis Ligadura	(817) 777-5555

Regards,

Makina Purchase
Director, Supply Chain Management

Gunna Doright
Director, Supplier Quality Management

Supplier Acknowledgement
2/27/2014

Leonard's Farm
65 Spitting Creek Rd
Podunk, OH 030606909

Attention: John Smith, Vice President Performance Excellence, Electronic Systems

D&B Number: 008033169

Subject: Letter of Concern Regarding Unacceptable Performance on Lockheed Martin
Aeronautics Company Contracts

NOTE: This acknowledgement must be signed by person indicated on the Attention line.

Name (Printed)

Title and Date (Printed)

Signature

CAR Levels (con't.)

Significant Issues



The following are identified as Significant Issues:

- **Recurrence of the same type of discrepancy (regardless of part number) within a 3 month period**
- **A discrepancy that could lead to an accident or serious loss of functionality, integrity, or safety margins**
- **Results of material surveys, one-time inspections**
- **Supplier Disclosures**
- **Government/DCMA Customer-identified non-conformance that could result in cost, schedule or other major contract impacts**
- **Request of Program / Integrated Product Team**
- **Repetitive rejections due to the lack of sub-tier control**
- **Installation or fit problem with excessive rework, repair time and/or cost**

A Significant Issue is a threat to our production schedule.

CAR Criteria: Supplier Response



Response Time

- The Supplier has a predetermined number of days to provide a CAR response, depending on the severity level selected by the CAR originator when the CAR was initiated.
- The time constraint should not be viewed as inflexible. Select an appropriate time; extend as needed for RCA/CA requirements. Make sure you have containment & the right level of oversight for the issue.

Priority

I = Urgent

II = Priority

III = Routine

Calendar Days

5 days (LM Aero line impact)

10 days (Potential of non-conforming material at supplier)

18 days (Audit findings)

Note this is calendar days, not business days

The CAR system is coded so that a response is not delinquent until two days after it is due to LM Aero, in order to allow CAR response review time by the SQE.

CAR Criteria: Supplier Response (con't.)



Supplier Quality Management Web Applications

[Hide/Show Menu](#)

Menu Selections

- SQM Web Applications
- Home
- SQE iDash
- Ask the Expert
- CAR Functions
 - CA - Inbox
 - Initiate New CAR
 - Modify Existing CAR
- Quality Excellence Review
- SQM Metrics Dashboard
- Watch Items
- Reports
- Maturity Development
- Management Reports
- OAT HUD
- Purchase Order Override
- PQH
- SQM Assets

CAR Discrepancy Information

CAR Level * Level 2 - Included in Rating

Category Information * Type of Corrective Action Request

Affected Site * Choose a Site

Number of Findings: *

Part Number:

Tool Number **Tool Code**

Requirement Document: *

Description of Requirement

Description of Discrepancy

Required Response Days

- 5 Response Days
- 10 Response Days
- 18 Response Days

Buyer Name * **Customer Concur Required (Y/N):** No **Customer Name**

Is this a re-occurrence? * No

File Attachment: Browse...

Select a response time based on the urgency of the CAR

CAR Criteria: Supplier Response (con't.)



- **Upon submittal, the CAR is auto-emailed to Supplier and LM Aero key personnel identified in PQN & SQMS, to include:**
 - ***Supplier Contracts Manager/Lead, Quality Mgmt & Engineering, and Company Senior Manager***
 - ***LM Aero Program QE, SQE, SCM, Surveyor/Auditor & Buyer***
 - ***Contact info is only useful if current; updates are needed from QEs, SCM & Engineering***
- **The required LM Aero CAR Response Form accompanies the CAR sent to the Supplier**
 - ***Also accessible via the SCM External website***
 - ***The Supplier is required to return Response Form within the defined Response Time with the following information:***
 - **Identification of deficiency Root Cause**
 - **Corrective Action Plan to improve process & prevent recurrence**

CAR Criteria: Supplier Response Form, Page 1



Lockheed Martin's expectation is "Right the First Time and All the Time Quality".

In support of the Lockheed Martin's Quality performance expectation we are requesting your management review this form and assure its total completion and accuracy before presenting your response to our representatives for acceptance. All portions of this form must be completed before returning it to ensure sustained improvement and the elimination of redundant discrepancies of our supplier's products and processes.

Please e-mail the completed form to those persons listed on the distribution of the original CAR. If e-mail is not available at your facility, FAX to your Supplier Quality Representative that initiated the CAR. You may copy or reproduce this form electronically for transmittal or expansion of answer areas. If transmitting electronically, please send in MSWord format. You may use attachments as well to provide detailed definition; however, this form must be completed in summary format as a minimum. Please contact the initiator for specific instructions if you do not understand any portion of this form.

Related to LM Aero CAR number: <input type="text"/>	Date of CAR Initiation: <input type="text"/>	Date CAR is due: <input type="text"/>
Submitted by (Company Name): <input type="text"/>		LM SupplierID Number: <input type="text"/>
Name of Submitter: <input type="text"/>		Date Your Response Transmitted: <input type="text"/>
P/N or Service Affected: <input type="text"/>		LM Aero Program Affected: <input type="text"/>

Name of Supplier Representative Approving this Response:

Title:

Date:

"Supplier Representative" is an officer or manager in the Supplier company with authority to approve the response content, not a LM Aero employee.

Note: It is required that at least one industry-recognized tool is used in the identification of a root cause that will help eliminate future occurrences. The following templates are attached as potential Root Cause Analysis tools. Other tools may be used as appropriate.

1. 5-Why Template
2. Ishikawa Cause and Effect/ Fishbone Diagram Template
3. Cause Map Template



5 Why Template.doc



Cause and Effect
Diagram.xls



Cause Map
Template.xls

Supplier provides root cause and corrective action information, using appropriate tools.

CAR Criteria: Supplier Response Form, Page 2



Discrepancy:

Copy and paste the discrepancy as written on the CAR.

Response Summary:

Provide a short summary of the response. Write this at an executive summary level.

A. Containment Actions

Identify effectivity of product(s) already shipped to LM Aero affected by the original problem.

Identify other products affected. If none, write "none" and describe actions taken to confirm no other product was affected.

What other product, if any, was affected by this discrepancy?

Identify other products affected. If none, write "none".

What immediate actions were taken to contain this discrepancy?

List the Containment Actions; i.e., immediate actions that have been taken to prevent the discrepancy until the long-term corrective actions are in place. Note, these actions must already be complete.

B. Root Cause Analysis

Problem Statement:

Provide a concise statement of the problem to be addressed.

Data Collection and Analysis:

State any background information/items investigated. Use pictures, graphics, flow-charts, etc., to help illustrate, if possible.

Root Cause Identification:

Discuss the type of RCA completed. Attach completed RCA tool in Attachment 1.

List all root causes identified where action was taken.

Identify at what unit serial number, batch number, or manufacturing date this problem will be fixed



Corrective Actions

#	Root Cause Issue	Corrective Action	POC	Implementation ECD	Objective Evidence
1	This must match the root causes listed in section B and in Attachment 1.		POC:	ECD:	
			POC:	ECD:	
			POC:	ECD:	
			POC:	ECD:	
			POC:	ECD:	

We are confident that the above actions will meet our collective expectations and will give the assurance that we are committed to (enter brief summary of resolution).

Should you have questions or comments regarding this response, please contact Name of POC at Phone Number of POC.

Respectfully submitted,

Name of Supplier Representative

Title of Supplier Representative

Attachment 1: Root Cause Analysis

Insert completed RCA below

Note that, much like your school math tests, suppliers are required to "show your work". This gives evidentiary support to a claim that RCA has been performed.

CAR Criteria: Delinquencies



- **If received within the required response time, the next step in the CAR process is to accept or reject a Supplier's response**
 - The decision should have serious deliberation
 - Involve your peers and your lead in the decision-making, if guidance is needed
- **A Response becomes delinquent when the ECD is exceeded by one calendar day, per corrective action tasks procedure**
 - A delinquent Level 1 CAR has no impact on the Quality Rating
 - A delinquent Level 2 CAR results in a twenty point deduction from the Quality Rating
 - Reminder: The due date provides two additional days for the SQE review of supplier response

CAR Criteria: Delinquencies (con't.)



- A CAR Response Delinquency May Be Avoided by Extending the Due Date
 - *Supplier is justifiably unable to meet due date*
 - *Additional time is required for root cause investigation*
 - *Process changes are not yet completed*
 - *Unacceptable responses and failures to respond are not reasons for an extension*
- CAR accept and reject criteria is further explored in Webinar 9.

***A Supplier should not be penalized for our failure to take action on time.
Move the due date out!***

CAR Criteria: Delinquencies (con't.)



- **For an unacceptable response**
 - *Document the rejection in the SQM Web Apps under the Q&MS CAR menu*
 - *The CAR database appends a dash number to the CAR, i.e., -1, indicating it has been rejected*
 - *Establish a new due date*
 - *Return the CAR to the supplier*
 - *If rejected a second time, i.e., -2, this is typically where you elevate from a level 1 to a level 2 CAR*
- **For a Supplier non-response**
 - *Document the rejection as a failure to respond*
 - *Establish a new due date and return the CAR to the Supplier*
 - *The CAR database will have appended a dash number to the CAR, indicating a rejection*
 - *If Supplier again fails to respond, consider elevating a Level 1 CAR to a Level 2 or submitting an additional Level 2 CAR for failure to respond*

Supplier Quality Rating



$$\text{Quality Rating} = 100 - (P_1 + P_2 + P_3 + P_4 + P_5)$$

P₁ = Pre-Install Defects

P₂ = Line Rejections

P₃ = CAR Quantity

P₄ = CAR Responsiveness

P₅ = Customer Escapes due to Supplier

- Max Deductions for Quality Rating Elements**

P1 = 30 pts

P2 = 40 pts

P3 = 10 pts

P4 = 20 pts

P5 = 25 pts per Esc.

- Rolling 12 month performance period
- 12 month Aging Factor for P1, P2 and P3 to reduce penalties via sliding scale
- For P1: 30 pt. maximum for yield of pieces rejected vs. pieces received – weighted monthly according to age of rejection
- For P2: 5 pt. deduction per part number per month maximum
- For P3: 2 pt. deduction for each CAR
- For P4: 20 point deduction for 1 Overdue CAR
- P5 applied as surtax
 - If score < 0; score is reset to 0

Deductions are made as the result of received defective components, line rejections, overdue CARs, Supplier caused escapes to the customer. Impacts show in the next rating update, reflecting a rolling twelve month period.

Computed for you by the system!

Summary



- **A CAR is a document to formally request corrective action of significant findings by the responsible supplier/special process source, as defined by Supplier Approval & Control procedure**
- **The Supplier Quality Management (SQM) Web Applications database is used to initiate and document a CAR**

Summary (con't.)



- **A finding is significant when the discrepancy/condition is:**
 - **Repetitive**
 - **Indicates a continuing negative trend**
 - **Affects Safety of Flight**
 - **Contributes to production line impacts**
 - **Customer directed**
 - **A Teaming effort**
 - **Systemic in nature**
 - **A produceability issue**
 - **A supplier First Article Inspection (FAI) escape or failure to notify SQM prior to commencing FAI**



Summary (con't.)

- **If the Supplier CAR Response is unacceptable, document the rejection in the SQM Web Applications database and return it to the supplier for rework**
- **The supplier is typically given two (2) opportunities to work out a satisfactory corrective action with the CAR initiator**

