Supplier Scorecard Guide

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Supplier Scorecard Guide

Quality and Delivery Supplier Scorecard Introduction

What is Supplier Scorecard?
- Supplier Scorecard is Lockheed Martin’s enterprise supplier performance evaluation methodology. Aligning Lockheed Martin and suppliers under a standard supplier evaluation methodology with simplified, concise calculations
- Supplier Scorecard consolidates supplier Quality and Delivery ratings and displays them through a simplified and unified Scorecard view
- Supplier Scorecard replaces past supplier evaluation iterations such as “Supplier Report Card”

When will Supplier Scorecard be deployed and who will use it?
- Supplier Scorecard will be deployed June 29, 2020
- Supplier Scorecard is a supplier evaluation methodology used across all Lockheed Martin business areas

<table>
<thead>
<tr>
<th>Quality Rating</th>
<th>Delivery Rating</th>
</tr>
</thead>
</table>
| Measuring:     | • Non-Production receipts excluded from evaluation
| • Nonconformances |
| • Overdue corrective actions |
| • Critical production impacts |
| • Penalties for overdue and partial overdue schedules |
| • Performance to schedule vs by unique shipment |

Supplier Scorecard incorporates supplier Quality and Delivery ratings and displays them through a simplified and centralized Scorecard view

(Additional Quality and Delivery rating detail and derived calculations can be found in this guide)
Supplier Scorecard Rating Scale

<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Approved</th>
<th>Conditional</th>
<th>Unsatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality</td>
<td>100%</td>
<td>90% - 99.99%</td>
<td>80% - 89.99%</td>
<td>&lt;80%</td>
</tr>
<tr>
<td>Delivery</td>
<td>100% - 98%</td>
<td>95% - 97.99%</td>
<td>90% - 94.99%</td>
<td>&lt;90%</td>
</tr>
</tbody>
</table>

(The table above outlines the quality and delivery thresholds that apply)

**NOTE:** Supplier Scorecard delivery ratings are not calculated for suppliers identified as Inspection Suppliers on purchase order line items. If a supplier is at times used as a PO supplier (the supplier the order is placed with) and an Inspection Supplier (manufacturer), delivery rating will only assess receipts for those purchase orders where the supplier is identified as a PO supplier. Should a supplier be found as an Inspection Supplier **only** on all purchase orders associated with them, delivery rating is **not** assessed.

Supplier Scorecard Procedure

Lockheed Martin regularly generates Scorecard updates. These updates depict delivery and quality activity for suppliers and are based on current month, and month ending reporting periods.

- **Nightly Update:** Lockheed Martin updates the current month Scorecard rating nightly.
- **Monthly Updates:** Lockheed Martin performs monthly updates to monthly closing activity for rolling 6-month and 12-month views. You must have 6 or 12 months of reporting period data to populate these views.
The regularly updated information on Scorecard can be displayed in various formats and views to help your company focus on areas needing improvement, as well as the general quality of your products purchased by Lockheed Martin. Examples of how you can view Scorecard data will be shown later in this guide.

**NOTE:** Lockheed Martin Buyer and Quality email contact information is referenced directly within Scorecard. If you have questions about delivery or quality, please email the appropriate Lockheed Martin buyer or quality engineer.
Accessing Supplier Scorecard

This section of the guide will explain how to access Supplier Scorecard as a Lockheed Martin supplier. The LMP2P Supplier Portal can be accessed via Exostar’s MAG Dashboard. Click [here](#) for LMP2P portal information.

- From the LMP2P Supplier Portal, click the Supplier Scorecard tab

**Lockheed Martin Internal Users Only:**

Please follow steps outlined in the internal version of this guide. The internal Supplier Scorecard guide can be found on the LMP2P Help-Page.
Navigating the Supplier Scorecard: Header Information

- The Supplier Scorecard default view will display along with header information about your company.
Navigating the Supplier Scorecard: Top Buttons

- There are five buttons across the top of the Scorecard
  - **Back to Start**: Will render the initial-access default display to current month
  - **Back One Step**: Will adjust the report view back to the previous query step
  - **PDF Output**: Will output the current data displayed to PDF
  - **Excel Output**: Will output the current data displayed to Excel
Navigating the Supplier Scorecard: Rating Scale & 6-month Averages

- The Supplier Scorecard Rating Scale is shown just underneath the header information and view change drop-down.
- The Quality and Delivery 6-month averages are shown just underneath the Rating Scale table.
  - This score is derived from a 6-month, month ending average.
  - You must have a minimum of 6-months of reporting data to populate a true 6-month Quality and Delivery average.
Navigating the Supplier Scorecard: Current Month Rating & Rolling Averages

- The *Monthly Rating* area will display current month Quality and Delivery score table and linear trend chart for each reporting month
  - If you do not have reporting data for one of the months in the *Monthly Rating*, it will show blank in the table, and as a dip in the linear chart
  - Data for the current and prior month will be updated nightly

- The 6-month and 12-month Quality and Delivery score averages are displayed in the *Rolling Averages* area
  - You must have a minimum of 6-months of reporting data to populate 6 month rolling average table, and at least 12-months to populate the 12-month rolling average table
Navigating the Supplier Scorecard: Changing Views

- You can change how the Scorecard data appears on your screen. To change from the default Supplier view, click the View By drop-down menu near the top of the Scorecard page
  - **Supplier View**: Default view displaying average Quality and Delivery ratings for supplier
  - **Controlling Area**: Displaying average Quality and Delivery ratings through filtered Lockheed Martin controlling areas (i.e. business areas)
  - **Plant / Program**: Displaying average Quality and Delivery ratings through filtered Lockheed Martin plants and program areas
Navigating the Supplier Scorecard: Filtering

In this example, the Plant / Program view is selected.

- You can press **Control key + mouse left-click** to select, deselect or select more than one item from the filter lists.
- Click the **Apply** button to the right of the filter options to apply your selections.

**NOTE:** *Show All Values* is automatically selected at default. You should deselect it if filtering with other values.
Supplier Scorecard: Supplier Quality Rating: Quality and Delivery Attribute Tables

Scrolling further down the Supplier Scorecard will display the raw Quality and Delivery attributes and information.

Calculations and formulas are shown later in this guide:

- **Quality Rating Attributes**
  - Nonconformances
  - Overdue Supplier Corrective Action Requests
  - Critical Production Impact Corrective Action Requests

- **Delivery Rating Attributes**
  - Delivery Receipts (Ontime/Late/Partial)
  - Late Delivery Receipts (Not Yet Received by Lockheed Martin)

Scorecard uses the information in these tables to calculate scorecard averages and ratings.
All data segments found in the Quality and Delivery attributes tables can be exported to Excel.

- You can click the Excel buttons next to the data sets to export the data on your local machine.
Quality Rating: Introduction

This section of the guide explains the Quality Rating formula used by the Lockheed Martin.

- This rating formula is used for all Lockheed Martin business units and for all suppliers that provide production/inspectable material.
Quality Rating Formula

**Quality Rating = 100 – (1 + 2 + 3)**

1. **Supplier Nonconformance**
   - No record cap

2. **Overdue Corrective Action**
   - 20 pts per late SCAR
   - No record cap

3. **Critical Production Impact**
   - 11 pts per CPI EC SCAR
   - 21 pts per CPI SI SCAR
   - No record cap

\[
100 - \left( \frac{\sum(Du \times Lwf)}{(Tpr \times Vf)} \times 100 \right) + \min(100, \sum Ls) + \min(100, (\sum Ec + \sum Si))
\]

The Supplier Quality Score equals the most recent 6-month average of all monthly raw scores.

**NOTE:** “No record cap” indicates that there is not a limit on the number of points that can be decremented from the score.
Quality Rating Formula: Quality Rating Scale

<table>
<thead>
<tr>
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<th>Excellent</th>
<th>Approved</th>
<th>Conditional</th>
<th>Unsatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality</td>
<td>100</td>
<td>90-99.99</td>
<td>80-89.99</td>
<td>&lt;80</td>
</tr>
</tbody>
</table>

To receive a rating of excellent, a score of 100% must be maintained.
Nonconformance Formula

\[
\text{Nonconformance Formula} = \frac{\sum (Du \times Lwf)}{(Tpr \times Vf)} \times 100
\]

Classified as Supplier Responsible Defects, this calculation considers the current month of Supplier Responsible defects. It calculates impact based on the location weight factor applied on nonconformance records and only considers closed/completed Supplier Responsible Defects. Based on the total pieces received in the past 12 months, this calculation also normalizes the collective pieces received from all goods receipts through use of the volume factor calculation.

- 100 maximum points can be deducted from a vendor’s quality rating
- The “Du” in the formula is equal to the number of nonconformance record supplier responsible pieces
- The “Lwf” in the formula is equal to the nonconformance record(s) location weight factor values
- The “Tpr” in the formula is equal to the total number of goods receipt record pieces received
  - Only “inspectable” receipts will be assessed in Tpr (PR line items associated with ZQUAL records)
- The “Vf” in the formula is equal to the range value included in the volume factor table
- All supplier responsible nonconformance records, including those identified as Customer Escapes, are candidates for this calculation
- If a nonconformance record maintains multiple defect record items, the system will utilize the most severe location weight factor for the calculation
- The system leverages use of the nonconformance record completion date (disposition date) to determine whether a nonconformance record is calculated for the current month
Nonconformance Formula: Volume Factor Range Table

<table>
<thead>
<tr>
<th>Qty Range (Between)</th>
<th>Multiply Pieces Received Qty by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.350000</td>
</tr>
<tr>
<td>10</td>
<td>0.749972</td>
</tr>
<tr>
<td>100</td>
<td>0.167898</td>
</tr>
<tr>
<td>1000</td>
<td>0.037588</td>
</tr>
<tr>
<td>10000</td>
<td>0.008415</td>
</tr>
<tr>
<td>100000</td>
<td>0.001884</td>
</tr>
<tr>
<td>1000000</td>
<td>0.000422</td>
</tr>
</tbody>
</table>

Used within the denominator calculation of the Nonconformance Formula, the above shown Volume Factor range table has been incorporated in the rating formula to help normalize the ratio of goods receipt quantities used within this calculation. In cases where supply base partners ship low volumes goods receipt quantities to Lockheed Martin this table balances the impact of the calculation through normalization. Similarly, supply base partners who ship higher volumes of goods receipt quantities this table normalizes the calculation in a similar manner.
## Nonconformance Formula: Location Weight Factors

<table>
<thead>
<tr>
<th>Defect Location</th>
<th>Wf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier Discovered Defect</td>
<td>2</td>
</tr>
<tr>
<td>Documentation Defect</td>
<td>2</td>
</tr>
<tr>
<td>Source Acceptance Defect</td>
<td>4</td>
</tr>
<tr>
<td>Receiving Defect</td>
<td>4</td>
</tr>
<tr>
<td>Receiving Inspection Defect</td>
<td>4</td>
</tr>
<tr>
<td>First Article Acceptance Defect</td>
<td>4</td>
</tr>
<tr>
<td>Audit/Survey Finding</td>
<td>4</td>
</tr>
<tr>
<td>Manufacturing Floor Defect</td>
<td>6</td>
</tr>
<tr>
<td>Testing Discovered</td>
<td>8</td>
</tr>
<tr>
<td>Customer Escape</td>
<td>10</td>
</tr>
<tr>
<td>Mfg Floor Defect After Install – Delivery</td>
<td>6</td>
</tr>
</tbody>
</table>

The nonconformance record weight factors apply a lower impact when defect record findings are found early in the supply chain process (i.e. Supplier Discovered Defect) versus a higher impact when defect record findings are found late in the process or even post-delivery (i.e. Customer Escapes).
Overdue Corrective Action Responsiveness

\[ Corrective \text{  Action} \text{  Responsiveness} = \text{MIN} \left( 100, \sum L_s \right) \]

Classified as Corrective Action Responsiveness, this calculation considers the past 12 months of supplier responsible corrective action requests (SCARs) and assesses all location weight factors except those identified as Customer Escapes. It only considers overdue SCARs where the Required End Date has been exceeded and SCARs that are overdue and have been closed as Supplier did not Respond.

- 20 points will be deducted from a vendor’s quality rating for each record found in this calculation with a 100 point no-cap maximum
  - The system shall restore 20 points per record when a late SCAR has been closed or the Required End date has been extended
- The “Ls” in the formula is equal to the total number of late SCARs
- If an issued SCAR exceeds the Required End date (considered overdue), a 20 point penalty will be issued
- If a supplier response is not received for an issued SCAR, a 20 point penalty will be issued
- Customer Escape SCARs are excluded from this formula
Critical Production Impact

\[
\text{Critical Production Impact} = \text{MIN}(100, (\sum Ec + \sum Si))
\]

Classified as Critical Production Impact, this calculation considers SCAR which maintain either an Escalating Concern or Severe Impact classification. 11 points will be deducted for each SCAR classified as Escalating Concern and 21 points will be deducted for each SCAR classified as Severe Impact. Closed SCARs maintaining either classification will be excluded from penalty.

- 100 max points can be deducted from a vendor’s quality rating for this calculation with no per record cap
- The “Ec” in the formula is equal to 11 points per SCAR classified as Escalating Concern
- The “Si” in the formula is equal to 21 points per SCAR classified as Severe Impact
- Location weight factors are not considered for this calculation

All issued SCARs, regardless of age or status (less those marked as closed), are evaluated for penalty impact. SCARs closed as SCAR Closed No Response are included in the rating.
Supplier Scorecard Guide

Delivery Rating Introduction

**Scope and Impact:**
- Goods receipt records are evaluated for a 12-month period
- Goods receipt quantities posted against Production orders, (those which maintain quality flow downs) are assessed against PO vendors
- A 7-day receipt-to-schedule date grace period is provided
- Overdue and partially overdue PO item schedule quantities are assessed against PO vendors after the 7-day grace period has been exceeded
- A PO line item schedule represents a single “Lot” opportunity (referred to as the “Possible Factor”)

**Delivery Rating Assessment:**
- Goods receipt quantities are spread across available PO item schedule quantities where an On Time or Late determination is made;
  - **On Time Lot Count:** Credit is given when goods receipt quantities are determined to be On Time for the PO item schedule(s) they’re assessed against. If goods receipt quantities comprise only a portion of the PO item schedule quantity, then partial credit is given
  - **Total Lot Count:** The Total Lot Count value is increased by the aforementioned goods receipt-to-PO line item schedule quantity in order to account for the “Possible Factor”. However, On Time Lot Count credit will NOT be given (value remains at zero) when goods receipt quantities are determined to be Late for the PO item schedule(s) quantities they’re assessed against
  - **Overdue Quantities:** On Time Lot Count credit will NOT be given (value remains at zero) where the unaccounted balance of PO line item schedule quantities is determined to be Late. In such cases, the Total Lot Count is increased by 1 Lot for each fully overdue PO item schedule in order to account for “possible points”
  - **Note:** On Time and Total Lot Count values will be expressed as either whole numbers or as decimals
- The ratio of Lots On Time to Total Lots received then determines a vendor’s delivery rating raw score (i.e. 1.3 Lots On Time / 5 Total Lot Count = 26%)
### Delivery Rating Formula: Delivery Rating Logic Examples

#### Example 1
PO line item contains 1 schedule for 100 pieces with 1 receipt posted On Time;
- Receipt #1 posted for 25 pieces (On Time) – On Time Count: .25 / Total Lot Count .25

**Sum Total for PO line item** – On Time Count: .25 / Total Lot Count .25 / Delivery rating: 100%

#### Example 2
PO line item contains 1 schedule for 100 pieces with 1 receipt On Time and 1 receipt Late;
- Receipt #1 posted for 15 pieces (On Time) – On Time Count : .15 / Total Lot Count .15
- Receipt #2 posted for 40 pieces (Late) – On Time Count: 0 / Total Lot Count .40

**Sum Total for PO line item** – On Time Count: .15 / Total Lot Count .55 / Delivery rating: 27.27%

#### Example 3
PO line item contains 1 schedule for 100 pieces with 1 receipt On Time, 1 receipt Late, and the balance of PO line item schedule quantities have exceeded the 7-day grace period and are considered Late;
- Receipt #1 for 36 pieces (On Time) – On Time Count: .36 / Total Lot Count .36
- Receipt #2 for 19 pieces (Late) – On Time Count: 0 / Total Lot Count .19
- Balance of PO line item schedule pieces (Late) – On Time Count: 0 / Total Lot Count .45

**Sum Total for PO line item** – On Time Count: .36 / Total Lot Count 1 / Delivery rating: 36%
Frequently Asked Questions

I cannot access my EXOSTAR account. What do I do?

Contact the EXOSTAR help line at 703-793-7800 or https://my.exostar.com/display/TE/Support

What are the two ratings shown at the start of the Scorecard?

6-month averages of both the Quality and Delivery rating are shown just underneath the Rating Scale table.

How is the Quality Rating calculated?

Please reference the Quality Rating section of this guide

How is the Delivery Rating calculated?

Please reference the Delivery Rating section of this guide

How do I obtain LM assistance for problem solving or process improvement?

Contact the Buyer Listed on the purchase order. The Buyer will coordinate any required internal LM resource needs.