Lockheed Martin Aeronautics

Vendor Quality Rating

Understanding the Formula

New Supplier Quality Rating

Quality Rating = 100 – (P_1 + P_2 + P_3 + P_4 + P_5)

P_1 = Pre-Install Defects	P_2 = Line Rejections	P_3 = CAR Quantity	P_4 = CAR Responsiveness	P_5 = 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

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Supplier Quality Management

The vendor quality rating used by Lockheed Martin Aeronautics consists of three elements. These are referred to as P_1, P_2, P_3, P_4 and P_5.

In order to understand the elements of the formula it is first imperative that one understands the data used to calculate the formula.

- Data comes from the last 12 months worth of vendor responsible rejections
    - Site rejection documents, SQARs, and PQN entries, Corrective Action Requests, and receipts from the vendor.
- Data is refreshed on the last day of the month each month and the new rating is calculated on or around the 15th of the month.

1. The first element of the formula, P_1, is referred to as the "yield" portion of the formula and consists of a possible 30 points.
    a. Yield is calculated by summing the number of vendor responsible rejection pieces in a given month.
    b. That number is then reduced by the age factor of 1/12th per month according to the age of the rejection.
    c. Each months total is then summed and becomes the "evaluated total" of rejected pieces.
    d. The evaluated total is then divided by the total count of pieces received from the vendor.
    e. The fraction is converted to an integer and the integer is then the amount of penalty subtracted from the 30 possible points.
    f. The penalty is capped at the 30 point maximum allowable for P_1.

2. The second element of the formula, P_2, is also referred to as the "stick factor" element and consists of a possible 40 points of the 100 point total.
    a. The name comes from the premise that when a part is attached to an aircraft or aircraft assembly it should "stick" and not have to be removed due to a nonconformance.
    b. The P_2 portion of the formula is calculated on the part number occurrence per line rejection document
    c. Each rejected part number per document carries a 5 point penalty to a maximum of 40 total points
    d. The 5 point penalty is reduced each month by an age factor of 1/12th and is removed once the rejection documents fall out of the rolling 12 month data window.
    e. Once calculated the penalties for each of the 12 previous months are summed.
    f. The sum is capped at a maximum of 40 points for the P_2 element.

3. The third element of the formula, P_3, is Corrective Action Request portion of the formula and consists of a possible 10 points
    a. Each corrective action request (CAR) issued to a vendor during a given month carries a penalty of 2 points.
    b. That penalty is reduced by an age factor of 1/12th per month
    c. The total penalty points are then summed and deducted from the 10 possible points allotted for this element of the formula.
    d. If the sum of the penalties exceeds the allotted 10 points, the penalty is capped at 10 points

4. The fourth element of the formula, P_4, is CAR Responsiveness and consists of a possible 20 points
    a. If at any time a corrective action request is delinquent, all 20 points are deducted at the time the rating is calculated.

5. The fifth element of the formula, P_5, is Customer Escapes due to supplier issues
    a. If a Customer Escape is documented to be due to a supplier nonconformance it carries a penalty of 25 points per escape
    b. If score is <0, it is reset to 0