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AML Status Codes Process Guidelines

Document Number and Revision: PROC-10048 Rev 06

Overview

This document defines the steps necessary to assign the AML Status Code for a particular Manufacturer Part Number (MPN).

Audience

The audience for this document includes Engineering Coordinators, Design Engineering, Component Engineering (CE), Supply Management (SM), External Manufacturers (EMs) and others who have to assign and use AML status codes

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Requirements

To assign an AML status code, information is gathered from Engineering, Services, Component Engineering, Supply Management, and other affected parties.

- ***Additional Reference Material and Contacts***

There are other job aids not covered in this AML Status Code document. It is important to become familiar with those job aids in order to quickly find information when needed.

BEST PRACTICE: Bookmark the coordination job aid "BOM" P/N 7014052 for easy access to the job aids. Additional reference material is listed in **Appendix B: Reference Material**, on page 7.

Roles and Responsibilities:

- ***Compliance Engineering***

- ***Design Engineering (DE)***
  - Define part requirements
  - Drive second source opportunities
  - Qualify or disqualify AML parts for production use
  - Provide justification for use of any sole or single sourced part
  - Provide DE input on the Risk Parts (Sole/Single Sourced)

- ***Engineering Coordinator (EC)***
  - Creates all new Oracle part numbers
  - Process MCO (or ECO) to change Qual. Status

- ***External Manufacturer (EM)***
  - Performs BOM scrub
  - Search for PSL 2nd sources/alternates to Oracle
  - Provide EM input on NPI BOM Scrubs.
  - Communicate all supplier component Product Change Notices (PCNs) per Oracle's PPCN process.

- ***Component Engineering (CE)***
  - Review all NPRs and work with Engineering in effort to make part's AML Multi-Sourced PSL Compliant.
  - Reviews the NPR and if the part is not on the EM's PSL or should not be used for other reason (EOL, poor quality supplier, etc.), research and if possible, provide alternate PSL solution/recommendation to Engineering.
  - Provide technical analysis of all sole or single sourced parts on assembly BOMs.
  - Work with Design Engineering, EMs and SSMs to develop 2nd source PSL alternates.

- ***Operations Product Engineering (PE)***
  - Conducts component qualifications

- ***Strategic Sourcing Manager (SSM)***
  - Manages Risk Parts working closely with Design Engineering, CE, and EM

- ***Value Engineering (VE)***
  - Provide technical analysis on sole or single sourced parts on assembly BOMs.
  - Work with Component Engineering, Design Engineering, EMs, and SSMs to develop 2nd source PSL alternates.

AML Qualification Status Levels

Table 1: AML Qualification Status Levels

Qualification Status Levels	*Status Code*	*Required Prior Level of Qualification Status Code*	*Engineering Qualification Required on New Design*	*Purchased stock can be used*[8]	
				Preliminary or Prototype	*Production*
Untested or Unqualified	U	N/A	Yes[6]	Yes	No[1]
Tested[4]	T	U	Yes	Yes	Yes
Qualified[5]	Q	R/T/U	Yes	Yes	Yes
Not recommended for New Designs[2]	Z	~~R~~/Q/T	Yes[2]	Yes	Yes
End of Life[5]	E	~~R~~/Q/T/Z	Yes[6]	Yes	Yes
Disqualified	D	Any	No	No	No
Restricted[3]	R	N/A	No	Yes, with approved deviation	Yes, with approved deviation[9]

1. While untested or unqualified (Status U) parts can be purchased, they must not be used for production assemblies unless authorized via a Deviation or Process Alert (PA).

2. Status Z is used for multiple purposes such as: EOL NRND.
   If a part is status Z due to a lifecycle change, or other alert, enter comments in the 'Reference Notes' field (ex. LTB=31-Jan-2015; NRND per supplier; .15u plating).

   Upon receipt of a supplier component EOL/Discontinuance Notification, ESO will ensure an ECR is raised and initiate an MCO to update the status to "Z" and include the Last Time Buy (LTB) date if provided by the supplier.

   Status "Z" components are still usable and thus shall be qualified but may no longer be available for purchase. For new design qualifications, engineering must confirm with the SSM if inventory is available for status Z parts, to perform a qualification. They may also consult with a CE on samples availability to enable qualification.

3. "R" is a legacy status code and shall no longer be used. Historically, the reason why a MPN was assigned an AML Status Code "R" was to restrict the use of the part in production per the conditions stated in the 'Conditions for Restricted Use' field. **The use of "Restricted Parts" on a new design is no longer allowed unless complying with the exception in note 9.** CE will reject any new part number request or change(s) that has a MPN on the AML with Status code "R".

It is strongly recommended that the part number requestor pull a new Oracle part number that will allow the MPN to be promoted from "U" to "Q". Status R parts may be used on preliminary, prototype, or production designs if approved by deviation subject to design engineering review and qualification. See note 8 for valid forms of deviations for production, and prototype/preliminary designs. **Any new designs in process as of the revision 6 release of this document shall not use parts with AMLs that include status R parts.**

4. "T" is a legacy status code and has been eliminated. Status "Q" is equivalent to Status "T".

5. Status Code "Q" may also contain a restriction for EOL Products specifically for Repair use. Any part restrictions for use will be noted in *Conditions for Restricted Use* field of AML tab in Fusion (example "Not for use in E1-2c repair").

6. Status "E" to be used after Supplier/Manufacturer EOL Last Order Date. Component is still usable and thus shall be qualified but may no longer be available for purchase. For new design qualifications, engineering must confirm with the SSM if inventory is available for status E parts, to perform a qualification. They may also consult with a CE on samples availability to enable qualification.

7. The engineering team's goal is to qualify all status U parts, but there is no guarantee that complete coverage of all such parts can be accomplished before a new design goes to production. Any parts that remain at status U after production may be qualified by the sustaining engineering team. Both new design and engineering teams should strive to qualify all status U parts.

8. See section Part Status Considerations for Advanced Material Purchases for more guidance on which statuses are suitable for ordering as part of AMPs. For production platforms, an approved deviation is only issued via Fusion. No other approval in Production is allowed outside of a Fusion Deviation. For Preliminary/Prototype designs, a deviation may be in the form of an EBD (Engineering Build Document) or Process Alert.

9. Any status R part in Fusion with a reason for restricted use stating "Approved for X86 only" is approved for use without deviation on X86 platforms E4, X7, X8, X9, or older. Newer systems/platforms must not use status R parts without an approved deviation. See note 8 for details on what constitutes an approved deviation for production and preliminary/prototype designs.

Recommended AML Status Code Flow Chart

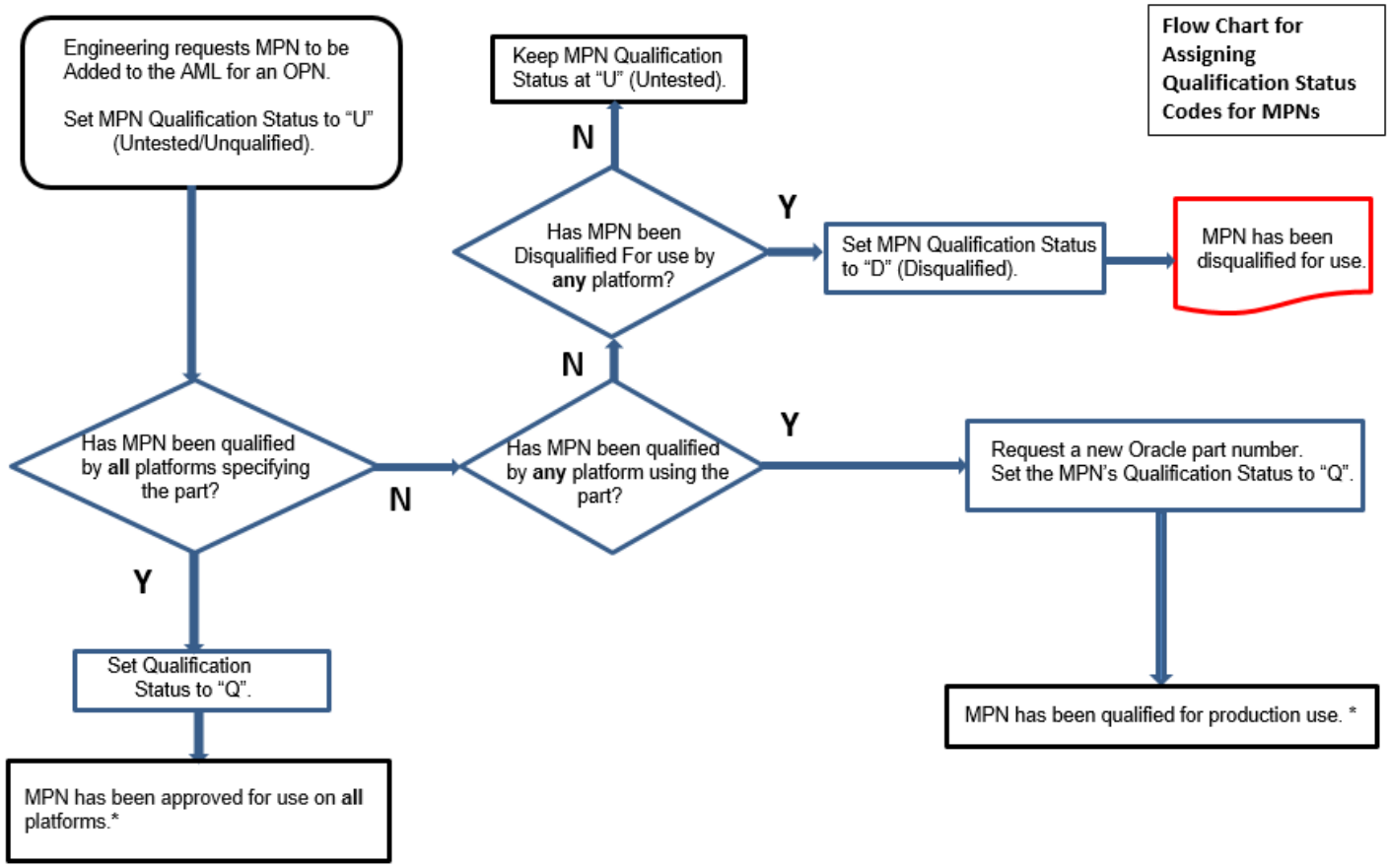
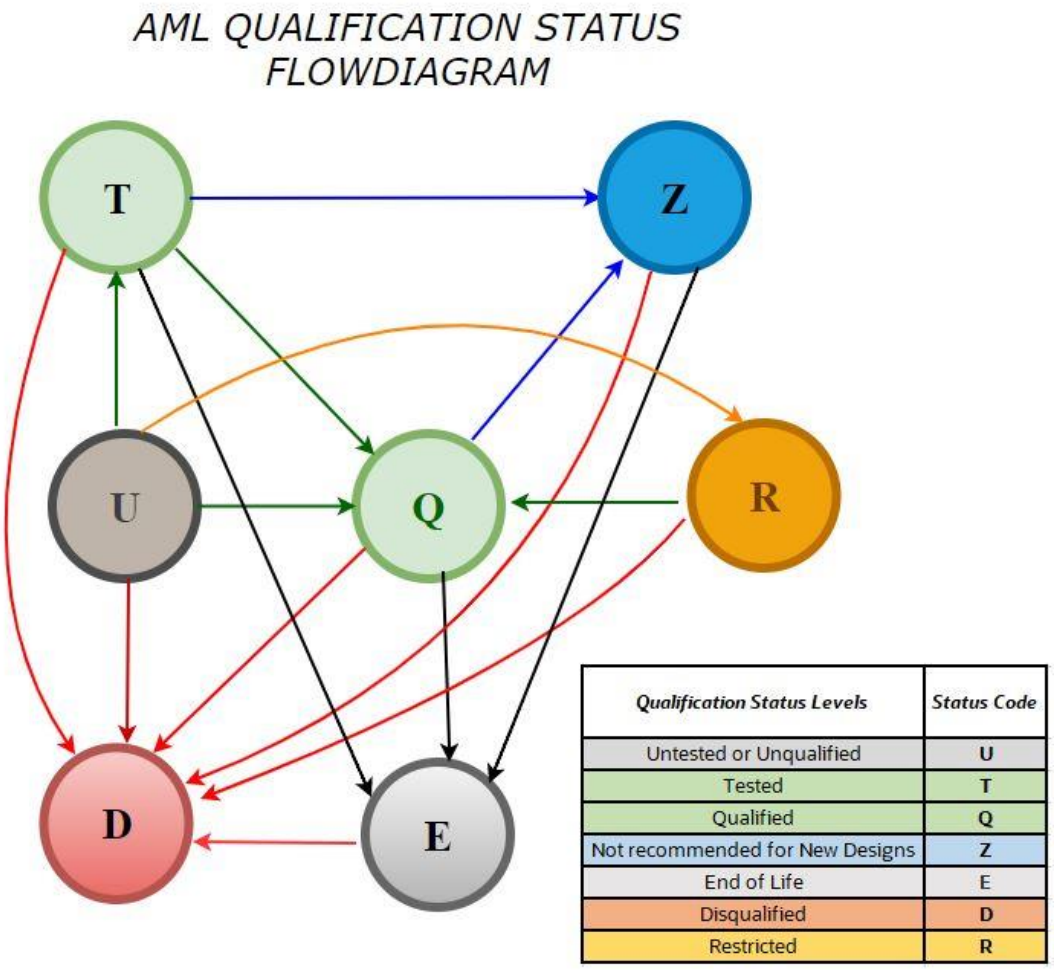


Figure 1: Recommend AML Status Code Flow Chart

Part Status Transitions and Related Guidance

Parts may transition in status asynchronously from the Oracle new design qualification process. Reasons can include, PPCNs received from suppliers, new engineering analysis or early test results resulting in immediate disqualification, and more. The diagram below shows each part AML status level and all possible states it can directly transition into, based on the information provided in Table 1.



Qualification Status Levels	*Status Code*
Untested or Unqualified	U
Tested	T
Qualified	Q
Not recommended for New Designs	Z
End of Life	E
Disqualified	D
Restricted	R

Figure 2: AML Qualification Status Flow Diagram

The following subsections provide guidance for those reviewing part AMLs with components transitioning in state during new design qualification or during material purchases (advanced or otherwise).

Transition from status Q (Qualified) to E (End of Life)

Parts may transition from Qualified to End of Life based on Oracle receiving a PPCN from the supplier indicating the part is past its Manufacturer's Last Order Date (or LTB date) on the documented schedule. Parts transitioning from status Q to status E shall still be considered qualified for sustaining platforms or to have the potential to be qualified for new designs. These parts could still be purchasable on the market. Please consult with the assigned commodity or supplier SSM for any market and/or purchase-related concerns.

Transition from status Q (Qualified) to Z (Not Recommended for New Designs)

Parts may transition from Qualified to Not Recommended for New Designs based on Oracle receiving a PPCN from the supplier indicating the part should be considered not recommended on the documented schedule with provided last time buy date. Parts transitioning from status Q to status Z shall still be considered qualified for sustaining platforms or to have the potential to be qualified for new designs. These parts could still be purchasable on the market, especially before the supplier-provided LTB date. Please consult with the assigned commodity or supplier SSM for any market and/or purchase-related concerns.

Transition from status Q (Qualified) to D (Disqualified)

Parts transitioning from status Q to status D have been disqualified by Oracle DE and are no longer allowed to be used on their associated designs. Any related part orders in progress should be stopped and any parts on-hand purged and/or returned to their suppliers.

Transition from status Z (Not Recommended for New Designs) to E (End of Life)

Upon Oracle receiving a PPCN from a supplier indicating a part is at the end of its production life, that part transitions from status Z (Not Recommended for New Designs) to status E (End of Life). A part may instead transition from status Z to status E after its associated Last Order/Last Time Buy date. Parts on order for sustaining platforms during the transition period can continue to be used, as any parts changing to status E were previously qualified (see Figure 2).

Parts for new designs that are about to start qualification or are mid-qualification when a change from status Z to status E occurs shall continue through the qualification process. Engineering must confirm with the relevant CE or SSM if inventory is available for status E parts, to perform a qualification.

Transition from status Z (Not Recommended for New Designs) to D (Disqualified)

Parts transitioning from status Z to status D have been disqualified by Oracle DE and are no longer allowed to be used on their associated designs. Any related part orders in progress should be stopped and any parts on-hand purged and/or returned to their suppliers.

Sustaining platforms may need to assess the impact of any designs that were previously built with status Z parts that are now disqualified. New designs shall not use parts that transition from status Z to D and engineering teams may need to adjust their qualification plans to exclude parts that have made this transition.

Transition from status U (Untested/Unqualified) to D (Disqualified)

Parts transitioning from status U to status D have been disqualified by Oracle DE and are no longer allowed to be used on their associated designs. Any related part orders in progress should be stopped and any parts on-hand purged and/or returned to their suppliers.

New designs shall not use parts that transition from status U to D and engineering teams may need to adjust their qualification plans to exclude parts that have made this transition. AMPs that are in the process of being completed may need to be halted and adjusted to exclude parts that have moved from status U to D.

Transition from status U (Untested/Unqualified) to Q (Qualified)

Parts transitioning from status U to Q have been qualified by **all affected platforms** (sustaining and new designs). Upon transitioning to status Q, these parts may be used in production.

Transition from status U (Untested/Unqualified) to R (Restricted)

Status R is a legacy/retired status that shall not be used going forward as of revision 3 of this document. Parts shall not transition from status U to R. If an Oracle team is considering moving a part from status U to R, they should consider changing to status D. To restrict a part to certain platforms, teams should use dedicated OPNs for those platforms instead.

Transition from status U (Untested/Unqualified) to T (Tested)

Status T is a legacy status code that has been eliminated. Parts shall never transition from status U to T under any circumstances.

Transition from status E (End of Life) to D (Disqualified)

Parts transitioning from status E to D have been disqualified by Oracle DE and are no longer allowed to be used on their associated designs. Any related part orders in progress should be stopped and any parts on-hand purged and/or returned to their suppliers.

Sustaining platforms may need to assess the impact of any designs that were previously built with status E parts that are now disqualified. New designs shall not use parts that transition from status Z to D and engineering teams may need to adjust their qualification plans to exclude parts that have made this transition.

Transition from status R (Restricted) to D (Disqualified)

Parts transitioning from status R to D have been disqualified by Oracle DE and are no longer allowed to be used on their associated designs including those platforms to which the status R part was restricted.

New designs shall not use parts that transition from status R to D that may have previously been approved for use by deviation. Any related part orders in progress should be stopped and any parts on-hand purged and/or returned to their suppliers.

Transition from status R (Restricted) to Q (Qualified)

Parts transitioning from status R to Q have been qualified by **all affected platforms** (sustaining and new designs). Upon transitioning to status Q, these parts may be used in production.

Part Status Considerations for Advanced Material Purchases

When Oracle teams review and process an AMP in conjunction with an Oracle third party, the purchaser of the advanced material shall only purchase parts on the AML with status U, Q, or Z. Parts with any other status shall not be purchased.

AMPs with a type of “NPI Program – Ramp Risk Buy (PCBA Level Only)” shall be reviewed by Component Engineering to ensure that only components at status U, Q, or Z are involved in the purchase. Design

Engineering may also review all status U parts in an AMP to aide in communication around qualification plans for those parts.

Appendix A: Glossary

Agile	Legacy Product Management and Collaboration application. Agile has been replaced by Fusion.
AML	Approved Manufacturer List. Also known as AVL, Approved Vendor List. The vendor name and part number for components and assemblies.
AMP	Advanced Material Purchase. An Oracle purchase of material to support a ramp to production build of product. Also known as a contract with suppliers (Oracle third Party) agreeing to purchase material in the future with the expectation that they build it now. It is not a purchase order because of the timeline for payment. This process requires high level authorization.
BOM	Bill of Materials
EBD	Engineering Build Document
ECO	Engineering Change Order; used to manage BOM and other changes to manufacturing.
EOL	End of Life
ESO	Engineering Services Organization. Reference ESO web site for information regarding their charter and contact information: http://hops-webdocs.us.oracle.com/ESO/index.html
IPN	Internal Part Number; i.e., Oracle manufacturing part number.
LCP	Life-Cycle Phase such as Development, Prototype, Production, or Inactive in Agile. Pilot and Obsolete life-cycles in Agile are not used. GSI has a different set of life-cycle states.
LTB	Last Time Buy
MCO	Manufacturing Change Order. MCOs are for non-revision changes such as adding or updating an AML or updating attributes such as Serial Control or Weights & Dimensions
MPN	Manufacturer's Part Number
NPI	New Product Introduction
NPR	New Part Request

NRND	Not Recommended for New Designs
CE	Component Engineering
OPN	Oracle Part Number
PA	Process Alert
PCN	Product Change Notification
PDA	Product Data Analyst. Members of ESO (Engineering Services Organization) who perform a quality review of change orders and communicate Production change orders to External and Internal Manufacturers.
PLM	Product Life-cycle Management (Agile)
PPCN	Product and Process Change Notification
PRT	Product Release Tool. The PRT Milestone Owner training and presentation are available on the PRG website, http://my.oracle.com/site/fin/md/prg/hw/prt-training/prt-training
PSL	Preferred Supplier List
RSL	Repair Services Logistics
SSM	Strategic Sourcing Manager
SRM	Service Readiness Manager
TLA	Top Level Assembly on Manufacturing BOM

Appendix B: Reference Material

Document	**Part Number, URL, or alias**
Coordination Job Aids	7014052 - Click on BOM tab to see job aids
Change Order Reviewer Matrix	7300240
ESO PDA mail alias	ESO-PDA_US@oracle.com
Coordinators – All	all-hardware-coords_ww_grp@oracle.com
Coordination Business Process Forum (leads)	coordination_process_forum_team_US_GRP@oracle.com
Coordination Managers	hardware-coord-mngrs_US@oracle.com
Change Management Team	hw_cm_mgrs_us_grp@oracle.com

NPI PCA BOM Scrub Process	BOM Scrub Process Flow
Part Number, Revision, and Interchangeability Conventions for Orderable and Manufacturing Items	990-1241
PLM DG (Dangerous Goods)	7014056
RoHS 2013,Proof of Compliance, Job Aid	7059832
RoHS PD (Part Declaration) Training Overview	7307868
RoHS 2016 GUIDELINES	7088626
PRG website	Product Release Group Website
AML Status Restricted Condition Definition	8207479

Document History

Rev	*Date*	*Description of Change*	*Originator*
02	19 Aug 2020	Initial Release	N/A
03	20 Apr 2021	Retirement/Elimination the Use of Status Code “R”. Adding "Note 6- Conditions for Status Q" on page 5 of the document	N/A
04	03 Jan 2022	Reformat to Redwood template	N/A
05	28 Feb 2022	Update Note 2 and add Note 7 (page 4)	N/A
06	25 July 2023	• Captions added for table and figures used throughout the document. • Added new column to Table 1 indicating requirements for engineering quals on new designs. • Footnotes added/updated for the same table with conditions noted for parts with status levels U, R, and Z. Footnote also added to direct readers to new section regarding AMPs. • New section added with guidance on AMPs related to part status. • New section added with information and guidance on part status transitions. • Updated information on Table 1 regarding expectations for status R parts in prototypes and production.	N/A