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Power Supply Handling, Support, Returns, and Data Reporting Requirements for External/Internal Manufacturers (EM/IM), PSU Suppliers and Oracle Services

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Overview

This document gives a description of the custom, Core and critical non-core Power Supply Unit (PSU) handling, support, returns, data reporting, and failure return process requirements to be followed by Oracle Services, external manufacturers (EM), PSU suppliers and Hillsboro Internal Manufacturing (IM) Operations when returning failed Power Supplies (AC/DC and DC/DC) to the supplier for Failure Analysis (FA), or reporting production line metrics data to Oracle Power Supplier Engineering (SE). Critical non-core PSUs will be determined by the Oracle power supply commodity team and communicated to the EM/IM teams.

Audience

Oracle Operations Manufacturing Engineering, Oracle SE, Oracle Supplier Program Managers (SPMs), Oracle Services, PSU Suppliers, and EM personnel.

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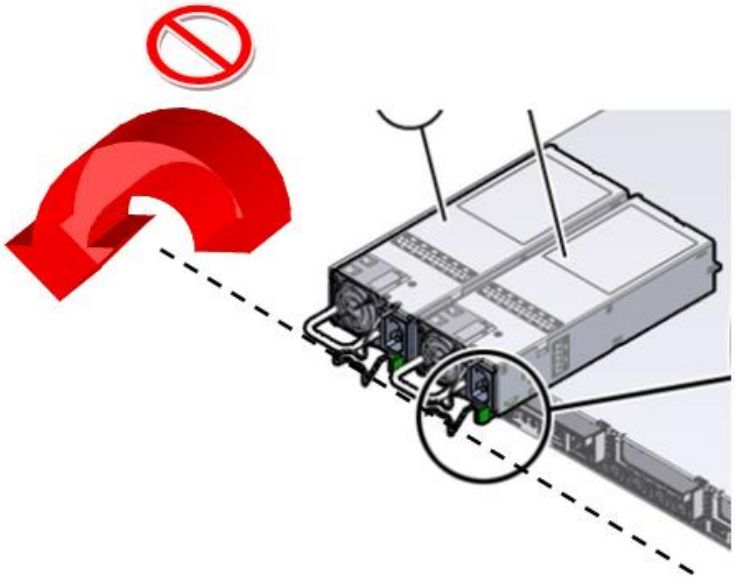
1 Handling

Prior to handling a PSU, always ensure that clean and orderly workspace is present, one with no debris which could cause damage or contamination to any PSUs that are handled.

- PSU packaging must not be damaged. Always inspect all layers of supplier packaging for damage before removing and using the PSU. Always report any potential damage to packaging to your supervisor, manager, or quality representative.
- Never exceed stacking height, when storing unopened stackable packaging.
- Always wear ESD protection. For details, refer to *SCO Global Manufacturing Operations: HLS - Electrostatic Discharge (ESD) Procedure*, 914-1304-xx
- Always open ESD bags by hand. Never use knives or other tools.
- Always observe *Global Cosmetics Quality and Workmanship Standards* (Doc in PIM), 923-2001-xx when handling and inspecting material at assembly.
- Always use correct tools, certified and qualified cables as identified in the Manufacturing Assembly Instructions (MAIs). Before any tools or cables are used they should be inspected for any damage and replaced if necessary. The use of incorrect tools can have a detrimental effect on product quality.
- Always report defective tools or equipment which will be used to interface with the PSUs to your supervisor, manager, or quality representative. The supervisor, manager, or quality representative should assure the defective equipment is logged and repaired according to your local equipment repair process.
- Never stick labels or tape to PSUs unless formally instructed by Process Alert (PA), MAI, manager, or supervisor. Any PSU dropped from any height during handling should be sent to MRB.
- Always handle the power supply by its outer casing; never handle by electromagnetic interference (EMI) fingers or edge connectors. A power supply should never be carried by its handle or latch.
- Never lift power supplies by their cables or connectors.
- Never stack power supplies on top of each other to prevent metal to metal cosmetic damage.
- Never slide a PSU on a surface which may cause cosmetic damage to EMI gaskets or spring fingers.
- Never touch or damage in other ways exposed card edge connectors (aka ‘gold fingers’). If any damage or contamination is evident on the edge connector, then the part should be withheld for engineering review.
- Only insert or remove a power supply into a system by its handle and ensure that the latch mechanism is engaged/disengaged as required. Never force the latch closed such than material will break or bend in the PSU or system.

- **During <u>any</u> stage of handling** never pivot the weight of the system on the power supply handles and/or latches or use the PSU handles to lift or carry a server system, both of which can exceed the PSU mechanical design use.



- To prevent intermittent input power when applying cables to the PSU:
  - **Inspect** the AC power cord prior to insertion and reject for an Oracle qualified cord if:
    - There are any signs of gross wear or damage to the cable connector housing.
    - Conductors appear tarnished bent, cracked, chipped, broken or with plating that has excessive wear or scratches.
  - **Check for loose fit** on the AC power cord – if there is excess play on the mated connectors then swap the power cord with another one from an Oracle qualified vendor which has a snugger fit.
  - **Apply power cord retention features** ~ for example Velcro strap or metal spring retainer ~ to ensure that the power cord does not work loose or get dislodged during test.

2 Return to Vendor (RTV) PSUs

The following procedure applies to RTV PSUs:

2.1 RMA timeline

On validation of a failed PSU the EM or IM must request an RMA within 48 hours. Supplier shall issue an RMA within two (2) business days after receiving a request from Oracle or Oracle's external manufacturer. Once the PSU has been received by the supplier, the expectations for returned parts are as follows:

- **24 Hours**: Initial FA response is due within twenty-four (24) hours of receipt of nonconforming material (RMA) for all issues identified to the Supplier as "Urgent" by Oracle.
- **3 Business Days**: FA Report, Containment Plan, and Risk Assessment is due within 3 business days, isolating what failed, down to FRU or Component level as appropriate, depending on the Product supplied.

- **7 Business Days**: The root cause is due within 7 business days after receipt of non-conforming material.
- **30 Calendar Days**: Corrective Action Implementation is due within thirty (30) calendar days after receipt of a non-conforming material. Supplier shall take corrective action for all known non-conforming product prior to shipment of Product to Oracle unless otherwise directed by the Oracle operations Program Manager for the affected product.

2.2 Shipping

If the PSUs model NTF rate exceeds the NTF goal (<10% of the returns) then the supplier needs to pay for expedited freight and prioritize the NTF RCCA.

2.3 Packaging and Information

Follow same ESD and PSU Handling precautions as for a good PSU in section 2 above.

- Request a Return Material Authorization (RMA) number from the supplier and complete the details for their return material questionnaire which will include:
  - Oracle Part number
  - Serial number
  - Detailed failure description and analysis conducted to validate the fault.
  - NCAT number if an escalation
  - Time to failure
  - System part and serial number
  - PSU location - PS0, PS1 etc.
- Test log sections which indicate the faulty PSU derived using the system diagnostics are to be transferred to the PSU Supplier via email and a hard copy shall be delivered with the unit in the shipping box. The test logs should contain PSU telemetry data (system black box recorder (BBR)) for the time of the fail event and be used by the PSU supplier to focus their failure analysis.
- PSU Supplier sends approval for return material with RMA number and “Ship To” address.
- PSU placed to fit completely in antistatic bags to allow bag to fold over and seal.
- Place PSUs into package and seal for shipment.

Note 1: Use the supplier bulk package or Oracle FRU packaging.

- Place label on the outside of each package with PSU Part Number, Oracle Serial Number, RMA number and NCAT number if available.

3 Internal Manufacturing

3.1 Support

The Oracle Power SE provides support to the EM/IM and Oracle Services for the Core and critical non-core PSU quality management, including Failure Analysis (FA), Non-conformance Corrective Action tool/Corrective and Preventive Action System (NCAT/CPAS) management, and failure verification processes. Oracle Power SE will hold a weekly quality meeting with the PSU suppliers to review:

- Supplier in-process yield
- Ongoing Reliability Test (ORT) and Post Pack Audit (PPA)
- Mechanical and electrical process capability (CPK)

- EM and IM returns status for FA and RCCA
- NCAT status
    - Update on any escalation events status
- Product or Process Change Notification (PPCN) status

The Oracle Power SE will supply PSU suppliers with weekly PSU usage and yield detail information from IM and EM (see Metric Data section below)

The Oracle Power SE will schedule a process audit at the EM/IM prior to the product release stage and afterwards annually to address the following areas of potential quality breakdown:

- PSU handling across process
    - Any risk of damage during material storage, system installation or de-kit
    - Alignment of cosmetic inspection requirements per *Global Cosmetics Quality and Workmanship Standards (Doc in PD)*, 923-2001-xx.
- HiPot/Ground continuity test
    - Verify if EM/IM needs to adjust their existing documentation and test conditions for HiPot in relation to the PSU requirements.
- System failure analysis and associated data in relation to troubleshooting PSUs
- MRB and RMA process in relation to PSUs

Any SSP will be supported by Oracle Power SE according to *Stop Ship and Purge (SSP) Process (Doc in PD),* 923-1826-xx. Any escalated quality issue which meets the SSP criteria will need cooperation with IM to conduct:

- Containment: identify discrepant material and arrange timely return to the PSU vendor or prepare for onsite rework with a suitable access and workspace.

  In the event that onsite rework is required the IM must provide an adequate space for a work area with benches for PSU suppliers to perform on-site inspection, sorting, rework or verification. The area required should have measures in place for personal safety and component ESD control and be of enough space to allow the PSU supplier representatives to handle/store/rework/repackage the material safely and carefully. If more extensive rework (e.g., opening up the PSU) is required then the work may be carried out offsite from the IM and will be arranged by the PSU supplier. The IM may be requested to supply access to appropriate Oracle system platforms with technical assistance or instruction from IM team, to conduct validation tests of suspect PSUs.

- Closure: keep the products team informed of the long term RCCA and due dates for implementation and validation via the NCAT process.

3.2 Communication

A FACOPS (see *WWOPs FACOPs user guide*) record must be created and properly completed by the technician or engineer who identifies the fault for all non-conforming material (NCM). After a failure has been properly confirmed and documented in FACOPS, Manufacturing Execution System (MES) transactions must be completed to align the physical movement of the failed material to its location, with in the material tracking system.

When a PSU needs to be returned to the supplier for any reason the RTV option is selected in FACOPs ~ optionally, RCCA "checkbox" and description can be used to communicate the need for further RCCA. Inventory Services (IS) transacts and delivers to the next material location in the system OFFSMRB for Oracle PSU buyer action.

Inventory Services (IS) move: transacts in Fusion and physically moves part to OFFSMRB for further disposition by the Oracle PSU buyer. Material that has undergone FA must be labeled on the outside of the packaging with the FACOPs number. This label is to be placed by the serial number and part number on the box but must not cover any other information or markings.

Internal Manufacturing (IM) shipping information is supplied to the PSU supplier by the Oracle PSU buyer so that the RMA units can then be tracked on the way back to the supplier. Non-escalated material should be returned within 5 working days of the failure's verification.

3.3 Metric Data

All weekly usage and fail data is monitored via Oracle BI tool and passed onto the supplier for Returns Per Million (RPM) tracking by the Power SE.

Damaged or failed PSUs which have been indicated as Oracle induced as indicated in the FACOPs "Fault" option and will be discounted from the fail totals.

PSU fails are categorized by the Oracle test technician or product engineer as ether Supplier Fault (SF) or Oracle Fault (OF)

Transportation Damage (SF) - Failure was likely created during the routing of the material into the Oracle factory. This category should NOT be used for defects likely caused by Oracle Manufacturing handling. Transportation damage will be interpreted as a Supplier Fault.

Oracle Manufacturing (OF) - Failure was created by Oracle manufacturing operations. This code will be interpreted as an Oracle Fault (OF) and defined as an Oracle induced fail.

Oracle De-kit Manufacturing (OF) - Failure was created during the Oracle Dekit process, primarily due to handling the unit in Oracle Manufacturing after return for Dekit. This code will be interpreted as an Oracle Fault (OF)

REP (Rotational test equipment) User (OF) - Any failure determined to be the fault of the REP user at Oracle. This code will be interpreted as an Oracle Fault (OF)

Supplier Fault (SF) - Failures deemed to be supplier or sub-tier supplier caused and/or require supplier Root Cause Corrective Action (RCCA), includes initial inspection failures, cosmetic, functional failures (mechanical and electrical), etc., determined not to be transportation damage. This code will be interpreted as a Supplier Fault (SF).

If FA at the PSU supplier results in an IM based No-Trouble-Found (NTF) result, the Oracle server system test logs will be reviewed by Power SE for more condition details that may have been overlooked and the system Black Box Recorder (BBR) data recovered to help understand the functional context of failure and provided to the supplier. Voltage current and Power waveforms may be created and passed on to the supplier to help recreate the conditions for test.

3.4 Return Material Authorization

Oracle IM must verify all PSU fails as per SCO *Quality: Root Cause and Corrective Action (RC/CA) Guidelines for Oracle and Oracle Suppliers (Doc in PD),* 923-3148-xx and then return the PSU fails and return the failed parts, with accompanying failure information, to the appropriate supplier. Oracle IM buyer will request a RMAs then completing a supplier RMA template to ensure the correct part and serial numbers are communicated. An RMA (Return Material Authorization) to return the material to the sub-tier must be requested within 48 hours of the material being placed in quarantine and the parts shipped out to the PSU supplier within five (5) working days of receiving the RMA from the supplier. The pending returns list should be reviewed for shipment twice weekly.

The supplier shall be supplied with the FACOPs report of the failure to support the request. This report will identify the system tests that the part has failed and the system platform on which the part was tested. Both a hard copy record accompanying the returning PSU and an electronic record will be provided by email (usually on RMA request). Each failure must be tested on different system to validate the fail.

For board mounted Core or critical non-core DC/DC converters the board location of the suspect part shall be identified, recorded and supplied to the EM for deeper board failure analysis and subsequent advance feedback to the part supplier.

The PSU supplier must be provided with a failure record or test log by the IM with each return.

Within the shipping package the IM shall add:

- RMA number
- Oracle Part number
- Serial number
- Detailed failure description (tests undertaken to validate the failure, ambient temperature of failed part, input voltage)
- NCAT number if an escalation
- Time to failure
- System part and serial number
- PSU location - PS0, PS1 etc.

4 External Manufacturing

4.1 Support

The EM is responsible for providing key onsite personnel who can act as a primary interface for day-to-day issues concerning Oracle's Core or critical non-core PSUs. The key EM PSU support person also has the responsibility to provide technical feedback on any PSU failures, Oracle system failure analysis, and the ability to coordinate with other EM site personnel to effectively manage PSU materials in case of any sorting, purging, or other activities. This person also must supply usage and fails data and participate in weekly quality control meetings held by the EM along with the Oracle platform SE team. The EM shall provide Oracle SE with current contact information for the PSU support person and notify Oracle promptly of any staff changes or temporary assignment coverage to ensure these duties are not interrupted due to vacation or other personal schedules.

The EM support person is also the first point of contact if an event concerning a Core or critical non-core PSU is escalated such as:

- test yield thresholds exceed by >2x DPM goal
- any safety test fails ~ including HiPot, Ground bond and thermal events
- Reliability Quality Testing (RQT), Ongoing Reliability Testing (ORT), or Post Pack Audit (PPA) issues or failures at the EM

and is responsible for:

- Forwarding detail within 24 hours to the Oracle Power SE on the nature of a power supply failure event, with test details and/or photographs which help illustrate the failure symptom.
- If needed, coordinate follow up actions with the PSU supplier onsite and communicate to EM team internally of any actions needed.

In the event that onsite rework of the PSU is required the EM must provide an adequate space for a work area with benches for PSU suppliers to perform on-site inspection, sorting, rework or verification. The area required should have measures in place for personal safety and component ESD control and be of enough space to allow the PSU supplier representatives to handle/store/rework/repackage the material safely and carefully. If more extensive rework (e.g., opening up the PSU) is required then the work may be carried out offsite from the EM and will be arranged by the PSU supplier. The EM may be requested to supply access to appropriate Oracle system platforms with technical assistance or instruction from EM team, to conduct validation tests of suspect PSUs.

The following expectations are considered key to establishing a strong communication and engagement link between Oracle Power SE and the EM:

- EM shall identify key EM Supplier Quality Engineer (SQE) contacts and backups
- Oracle Power SE will schedule regular meetings with the EM SQE to be conducted weekly during the ramp period between NPI and production, and then monthly after the process has reached a steady state as defined by PSU meeting all quality goals. Minutes will be published within 24 hours.
- Oracle Power SE will need a full understanding of EM escalation contacts and processes prior to the NPI ramp phase. Any changes to the process or personnel will be communicated within 48 hours by the EM SQE manager.
- EM SQE will distribute the weekly PSU Reject Parts Per Million (RPPM) tracking reports to include tabs for:
  - Each PSU supplier – all supplier models reported in discrete section (tabs). Including part number, serial number and description of failure symptom.
  - All RMA returns and NCATs – with RMA number, dates and shipping detail for tracking
  - Active/pending Product and Process Change Notifications (PPCNs) – grouped by supplier and model and indicating CR number, status, cut-in/phase-in dates and status comment.
- Access will be obtained for Oracle Power SE to EM's folder on Oracle Beehive from the folder coordinator where quality tracking data for PSUs is posted weekly.

- NCAT/CPAS – the EM SQE will raise an NCAT for the following types of fails and returned to the PSU supplier as soon as possible for RCCA:
    - Dead On Arrival (DOA)
    - Hi-Pot, Ground test, safety
    - Thermal event (smoking, charring, flame)
    - Post Pack Audit (PPA)
    - Reliability Qualification Test (RQT)
    - On-going Reliability Test (ORT) rejects

  The Power SE need to be notified within 24 hours with clear details of each event, when it occurred, what were the failure symptoms with supporting data, and the status of the affected units recorded in the NCAT tool.
- Information shall be shared by Oracle Power SE as soon as it occurs which will affect EM's in relation to
    - New Product Introduction [NPI] - coordinate readiness and reporting prior to the release date
    - Process Validation Test [PVT] - notify duration, start and end of events
    - Stop Ship and Purge [SSP] – acknowledged and completed date

4.2 Communication

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- Oracle Power SE will need a full understanding of EM escalation contacts and processes prior to the NPI ramp phase. Any changes to the process or personnel will be communicated within 48 hours by the EM SQE manager.
- EM SQE will distribute the weekly PSU Reject Parts Per Million (RPPM) tracking reports to include tabs for:
    - Each PSU supplier – all supplier models reported in discrete section (tabs). Including part number, serial number and description of failure symptom.
    - All RMA returns and NCATs – with RMA number, dates and shipping detail for tracking
    - Active/pending Product and Process Change Notifications (PPCNs) – grouped by supplier and model and indicating CR number, status, cut-in/phase-in dates and status comment.
- Access will be obtained for Oracle Power SE to EM's folder on Oracle Beehive from the folder coordinator where quality tracking data for PSUs is posted weekly.

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    - New Product Introduction [NPI] - coordinate readiness and reporting prior to the release date
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    - Stop Ship and Purge [SSP] – acknowledged and completed date

4.3 Metric Data

The EM must post PSU usage metric data (described below) on Oracle Beehive for review by every Friday 5pm (PST).

- Reports must be available weekly and must cover current quarter plus the previous 4 quarter time periods.
- Reports should be split in two sections: (a) usage reporting and (b) failure tracking

4.3.1 Usage Reporting

The reports should include (but not be limited to) the following:

Usage reporting: year & week being reported, test location, system slot or board location identifier, Oracle platform model, Oracle PSU part number, PSU supplier name, quantity used in new production, failure rate and RPPM by Oracle platform model and a complete list of the failing PSU serial numbers.

4.3.2 Failure Tracking

This section should list each of verified PSU failures and specify the Oracle platform, test logs, PSU supplier name, Oracle part number, serial number of the failing PSU and the Oracle system in which it failed, date failure was verified and the tracking RMA Number and Airway bill information to return the failure to the supplier. Dates for each stage (list out the stages here) of the returns process should be recorded to allow evaluation against expected turnaround time from RMA receipt to shipment date.

4.3.3 No Trouble Found (NTF)

The EMs must develop and maintain a robust no trouble found (NTF) process for PSUs, to minimize the risk of incorrect diagnosis, and to reduce the difference between rejected fallout from the manufacturing line (that is, RPPM) and failures verified by the supplier (that is, defective parts per million [DPPM]). This process should be in place after product release and be reviewed monthly by the EM SQE. Repeat returns sent to the supplier and are subsequently determined to be NTF for a second time will need to be escalated by Oracle Power SE for more detailed review to close any test gaps between the IM/EM and PSU supplier.

4.4 Return Material Authorization

The EM must verify fails and return the failed parts, with accompanying failure information, to the appropriate suppliers after completing their RMA request template. The failure information should contain details of what test was run, if the test was slot dependent and were there any unique configurations used to create the failure. An RMA (Return Material Authorization) to return the material to the sub-tier must be requested within 48 hours of the material being placed in quarantine and the parts shipped out to the PSU supplier within five (5) working days of receiving the RMA from the supplier. The pending returns list should be reviewed for shipment twice weekly.

Requests for FA results from PSU suppliers must come through Oracle Power SE and not be made directly to the PSU supplier by the EM. Each failure shall be tested on different system to confirm the symptom.

Reporting on material inventory which is pending RMA authorization or shipment is to be provided by the EM to the Oracle Power SE on a weekly basis or as requested. This can be included in the weekly report posted on the EM Beehive-online portal.

The PSU supplier must be provided with a failure record or test log by the EM with each return.

Within the shipping package the EM shall add:

- RMA number
- Oracle Part number
- Serial number
- Detailed failure description
    - Test stage of failure and test conditions being performed
    - Time to failure
    - System configuration to help determine load applied
    - Additional material to aid failure analysis: photos, diagrams, details of unique features of equipment used
- NCAT number if an escalation

5 Oracle Service

5.1 Support

The Oracle Services team must verify suspected PSU fails and return the failed parts, with accompanying failure information, to the appropriate supplier. Oracle Services will request RMAs after completing a supplier RMA template to ensure the correct part and serial numbers are communicated. An RMA (Return Material Authorization) to return the material to the sub-tier must be requested within 48 hours of the material being placed in quarantine and the parts shipped out to the PSU supplier within five (5) working days of receiving the RMA from the supplier. The pending returns list should be reviewed for shipment twice weekly.

The PSU supplier will be supplied with the failure description by Oracle Services to support the request. This report will identify the Oracle system tests in which the PSU has failed and the Oracle system platform on which the part was tested. Both a hard copy record accompanying the returning PSU and an electronic record will be provided by email (usually on RMA request). Each failure must be tested on different system to confirm.

The PSU supplier must be provided by Oracle Services with a failure record or log with each return. The log shall be of sufficient detail for the PSU supplier to determine the context of failure of the part.

Within the shipping package the Oracle service shall add:

- RMA number
- Oracle Part number
- Serial number
- Detailed failure description
- NCAT/CPAS – the following types of fails need to have their own NCAT raised and returned to the PSU supplier as soon as possible for RCCA:
    - Dead On Arrival (DOA)
    - Hi-Pot, Ground test, safety
    - Thermal event (smoking, charring, flame)
    - Post Pack Audit (PPA)
    - Reliability Qualification Test (RQT)
    - On-going Reliability Test (ORT) rejects

The Power SE need to be notified by Oracle Services within 24 hours with clear details of each event noted above, when it occurred, what were the failure symptoms with supporting data, and the status of the affected units recorded in the NCAT tool.

5.2 RMA Communication Requirement

Any service request attributed to the PSU will contain a clear description for the return. This information shall include:

- Oracle PSU Serial number
- Oracle PSU Part number
- Oracle Service Request number (SR)
- NCAT/QCCPAS number (if required – see section 7)

- Failure description:
  - To include
    - Electronic log with timestamp
    - Any observations of physical or cosmetic damage
    - Date/time of failure
    - Time To Failure (TTF)
    - Input voltage
    - System type (platform name)
    - System fail message (test log)
    - Location of PSU failure in the system (test slot)
    - External connections made to the PSU such as PDU or circuit breakers affected
    - Snapshot data and its location (can get full logs and configuration information)
    - Tracking information – like supplier RMA, QCCPAS number and shipping detail information.

6 PSU Supplier

6.1 RMA Communication Requirement

The PSU supplier must ensure that the information contained on a RMA request from an EM, IM and Service is complete and contains the following as a minimum:

- Part number
- Serial number
- NCAT number (if required – see section 7)
- Detailed failure description
- Date/time of failure
- Time To Failure (TTF)
- Input voltage
- Oracle System type (platform name)
- Oracle System fail message (test log)
- Location of PSU failure in the Oracle system (test slot)
- Diagnostic data describing the fail conditions

If the information is not complete, the reporting party should request the omitted information before the RMA is issued.

- Any Product which is determined to be NTF by the Supplier and is confirmed as a failure a second time after being returned to Oracle, shall be treated as a Supplier quality and test escape defect and therefore be measured as part of the DPPM calculation. No NTF Products shall be returned two (2) or more times to the IM or EM unless otherwise requested by Oracle, and Supplier must scrap the 2nd time NTF units and provide Oracle or Oracle's contractors with replacement units at Supplier's cost. NTF returns to Oracle Services must follow the Services exhibit contractual language which permits up to three (3) returns if approved by Services.

The PSU supplier shall conduct weekly reviews of all (EM, IM and Oracle Service) returns FA data to establish whether there are any emerging failure trends that need to be addressed within their process and identifying longer term latent defects. This review shall be discussed in weekly quality reviews with the Oracle Power SE.

7 Escalations

IM and EM shall generate a NCAT entry for any Hi-Pot / Ground continuity, ORT, RQT and PPA fails. An escalation NCAT will also be raised for persistent quality issues that need detailed analysis. The status dates and shipping information of returned NCATs should be recorded in the EM weekly tracking report.

RMAs should be requested from the concerned PSU supplier within 24 hours of fail validation. The failed part should be dispatched to the supplier within 48 hours of test failure.

7.1 SSP (Stop Ship Purge) Events

The Oracle Power SE must ensure that the EM Supplier Quality Engineer (SQE) is notified prior to or on initiation of the SSP.

The EM must work on the assigned actions from the technical assessment and/or Pre-assessment items, and if applicable, on the SSP activities, as follows:

- Provide the inventory levels of the affected parts and locations.
- Ensure that all affected areas are purged and quarantined.
- Ensure that the purged material is either reworked according to instructions and/or returned to the EM or the PSU supplier.

The EM SQE must maintain regular daily communication of updates when actions are completed or closed.

The PSU supplier will determine the affected material date codes or lots for containment action once FA has been conducted and provide details of corrective and recovery action. Any rework instructions will be supplied for review by Oracle Power SE prior to any work being carried out.

7.2 Below Buy Level PSU

Oracle EM will buy a whole system (level 4 – L4) that is supplied by an EM for integration into a larger system such as a rack. Where a L4 system develops a faulty PSU then the IM shall maintain a buffer stock of replacement PSUs for an escalated event. The failed PSU shall be replaced and the configuration change transposed to the EM data from which the system configuration was recorded.

- PSU fails in L4 system – then removed
- PSU replaced with buffer stock PSU in L4 system and serial numbers recorded of both PSUs. (Product Engineer or supplier Engineer for platform communicates notify Ops program manager of the change)
- Faulted PSU sent for FA and buffer replenished (buyer requests RMA and a replacement from the PSU vendor)
- L4 system configuration data will need to be adjusted in EM database to represent the changes made at IM (Ops PM notifies EM program manager)

7.3 Field Consumable PSUs – Escalations

If a PSU is not being returned to the supplier after failing in the field due to its low cost not meriting automatic return to the PSU supplier, then if a heightened quality event emerges (such as safety, thermal, or higher annualized fail rate) a trigger mechanism is needed to ensure that prompt RCCA is conducted.

1. Trigger from Service or Power SE to identify an event via email or directly by phone call.
2. PSU supplier is notified by Oracle Power SE that there is cause for deeper investigation and a failure return, or returns is needed back to the PSU supplier for RCCA
    a. PSU supplier will be supplied with:
        I. system symptom
        II. QCCPAS if raised already by Oracle service
        III. quantity of PSUs for return and
        IV. current location
    b. PSU supplier will supply
        I. RMA number
        II. ship-to-location
        III. shipping account
    c. On receipt of unit(s) supplier will provide 8D report detailing FA/RCCA under contractual timelines.
    d. PSU supplier will provide Oracle a remedy to Oracle to repair, replace or credit reported failed PSUs.

Related Information

Reference Documents and Records

REFERENCE DOCUMENTS AND RECORDS	
Manufacturing/Operations Requirements Advanced Quality Planning (AQP) Matrix	913-3592
SCO Global Manufacturing Operations: HLS - Electrostatic Discharge (ESD) Procedure	914-1301
SCO Global Manufacturing Operations: HLS - Handling Non-Conforming Material (NCM)	917-1872
Stop Ship and Purge (SSP) Process (Doc in PD)	923-1826
Root Cause and Corrective Action (RC/CA) Guidelines for Oracle and Oracle Suppliers (Doc in PD)	923-3148
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SCO Global Manufacturing Operations: HLS - Quality Issue Tracking and Control	923-3588
SCO Global Manufacturing Operations: HLS - Site Execution Map	924-0303

Document History

Rev	*Date*	*Description of Change*	*Originator*
01 (A)	08 Mar 2017	Initial Release	N/A
01 (B)	27 Jul 2017	Updated document title and all reference doc titles. No Training Required.	WebDocs Admin
01 (C)	23 Oct 2018	Updated document title and all reference doc titles. No Training Required.	WebDocs Admin
01 (D)	17 Dec 2018	Removed references to GSI No Training Required.	WebDocs Admin
01 (E)	19 Dec 2018	Removed specific Originator Names. No Training Required.	WebDocs Admin
02	16 Apr 2019	Align WebDocs revision with Fusion. No content change. No Training Required	WebDocs Admin
03	01 Aug 2022	Update to Redwood format. Update reference document titles. De-link non-working links.	N/A

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