

**Celestica Notification of Product / Process Changes,
Discontinued Availability and Product Alerts by Suppliers**

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Final Approver	Wes Thistle	

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Procedure Description

1. Purpose

This document establishes general requirements to suppliers for notifying Celestica of all product and/or process changes, product discontinuance and product quality alerts.

2. Scope

This process is globally applicable to all Celestica purchased parts and materials that are consumed in Celestica's manufacturing processes.

3. Responsibilities

Suppliers are responsible for notifying Celestica of any product and process related changes including product discontinuance, product quality alerts, and any changes that may affect fit, form, function, quality, safety or reliability. See procedure below for the content required.

4. Procedure

4.1 Introduction

From time to time, a supplier will make a change to its product or process for any number of reasons such as quality improvement, cost reduction or as a result of a corrective action. Some of these changes have the potential to affect the product's performance in their customer's application. The supplier may also become aware of a product quality issue which should result in a quality alert communicated to its customers. Under certain circumstances, the supplier may also decide to discontinue offering a product. Therefore, it is required that the supplier have a

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process for notifying Celestica of such changes, product discontinuance and product quality alerts.

4.2 General PCN/EOL/PA Requirements:

1. The supplier shall have a documented PCN process that includes criteria for identifying a change.
2. The supplier shall provide a point of contact for each individual PCN through which all related communication can occur.
3. Each individual PCN must have a unique supplier tracking number assigned to it.
4. Each individual PCN must include a complete list of all the supplier's affected part numbers and affected Celestica part numbers.

4.3 Celestica Notification:

No change, substitution or modification of any Goods, component parts, tooling, and sources of raw materials, processes, or manufacturing sites, or shipment of alternate parts may be made without prior notification to Celestica.

Celestica requires notification of all changes be received by Celestica's Global PCN Coordinator a minimum of **90 days** prior to the change implementation date.

All supplier product Discontinuance Notifications shall be sent to Celestica's Global PCN Coordinator a minimum of **6 months** prior to Last Time Buy date and **12 months** prior to notice of final shipments.

All Product / Process Change Notifications, Product Discontinuances and Product Alerts must be sent to:

Global PCN Coordinator Celestica

Plot 15, Jalan Hi-Tech 2/3 Phase 1, Kulim Hi-Tech Park, 09000 Kulim, Kedah, Malaysia

fax: +604-4034299

pcn@celestica.com

For email notifications, it is recommended that the subject line include the manufacturer's name, change type (i.e. PCN, EOL, or Alert) and a brief description of the change.

4.4 Celestica Response to PCN:

4.4.1 General response: Any concerns, requests for additional information, extension requests or even rejection of the supplier's PCN will be communicated by Celestica to the supplier contact within 30 days of original receipt.

4.4.2 Celestica Healthcare response: Changes related to Goods supplied for Celestica Healthcare products, the Supplier shall not make the change without Celestica's prior written consent. This will be confirmed to the Supplier within thirty (30) days of receipt of the Supplier's notification. If consent or concerns are not issued by Celestica within 30 days then the Supplier can assume default acceptance of the change by Celestica.

4.5 Minimum Information Required within the Notification

4.5.1 Product/Process Change Notification:

**Celestica Notification of Product / Process Changes,
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Document Class: Policy	HealthTech	Effective Date: Dec 27, 2014
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1. Name, address, telephone, email and fax number of supplier contact
2. Product identification (e.g. supplier part numbers, affected product lines including specific package types, product family)
3. Detailed description of change(s)
4. Reason or rationale for change
5. PCN tracking number
6. Anticipated (positive and negative) impact on fit, form, function, quality, reliability, and safety
7. Implementation date for change
8. Supplier qualification Pass/Fail results, where applicable*
9. Celestica part numbers affected
10. Date, if required, when qualification samples are available
11. Date, if required, when final qualification data is available
12. Identification method to distinguish changed product (new part numbers, date code, revision, marking, etc.)
13. Last order date (if applicable) of the unchanged product

4.5.2 Additional content required for RoHS related supplier PCNs:

1. Moisture Sensitivity Level (for current and change product)
2. Maximum process temperature (for current and changed product)
3. Termination finish (for current and changed product)
4. Forward and backwards process compatibility/incompatibility of changed product
5. Tin whisker test information where applicable, Qualification/test data to be available upon request
 - has Tin Whisker test been performed
 - what guideline/standards has Tin Whisker test been performed according to (iNemi, JEDEC, etc.)
 - has the product, according to supplier, passed or failed Tin Whisker test (please indicate guideline/standard used e.g. iNemi, JEDEC, etc.)
6. Certificate of Compliance (CofC) for RoHS compliant parts to CLS standard (if unable to provide, please state a reason)

Note: Please refer to the documents listed under references when providing the above information

4.6 Discontinuance Notifications:

1. Name, address, telephone, email and fax number of supplier contact
2. Product Identification (e.g. supplier part numbers, affected product lines including specific package types, product family)
3. Celestica part numbers affected
4. Documentation tracking number
5. Reason or rationale for discontinuance
6. Date for Last Time Buy (placement of purchase order)
7. Recommended replacement part number(s)
8. Recommended alternate sources of supply

**Celestica Notification of Product / Process Changes,
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4.7 Product Quality Alerts:

Whenever the supplier suspects that non-conforming product has been shipped to Celestica, the supplier must immediately send a written quality alert to Celestica's Global PCN Coordinator.

4.7.1 Minimum content of the supplier's Product Alert:

1. Name, address, telephone, email and fax number of supplier contact
2. Product Identification (e.g. supplier part numbers, affected product lines including specific package types, product family, date / lot code)
3. Celestica part numbers affected
4. Documentation tracking number
5. Detailed description and explanation of the alert and non-compliance (identify failure mode if applicable)
6. Impact to product quality, reliability and safety (highlight any danger to users if applicable)
7. Recommended containment activities
8. Disposition of non-conforming product

Note: The subject line of the Product Alert notification must identify it as such.

4.8 Plant Closures / Insolvencies:

The supplier is required to advise Celestica's Global PCN Coordinator of an impending insolvency or plant closure in conjunction with notifying their OEM customers. Celestica expects to be advised a minimum of 90 days before the effective insolvency or closure date. The notification should be sent to both the Commodity Manager and the Celestica PCN Coordinator.

4.9 Manufacturing Location Change:

For a manufacturing location change, the supplier must provide a product transfer plan that indicates the reason for the proposed location change. Qualification requirements shall be specified at the discretion of Celestica Global Commodity Engineering and could include on-site audits of the new location by Celestica. A location change will not be considered if the quality history (as determined by Celestica or our customers) of the proposed facility is not equal or better than the current facility.

5. Definitions

Supplier :	Any organization to which Celestica has ever issued a purchase order.
Change:	Any alteration to the product or process that can potentially affect form, fit, function, quality, reliability or safety.
PCN :	Product or Process Change Notification is a document sent to Celestica describing the product or process change, the reason for the change and the projected impact of the change.
EOL:	End Of Life is a document sent to Celestica announcing future discontinued availability of product, the last time buy date and the alternate product(s) to be used (if applicable).

**Celestica Notification of Product / Process Changes,
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Document Class: Policy	HealthTech	Effective Date: Dec 27, 2014
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PA:	Product Alert is a document sent to Celestica announcing the escape of potential non-conforming product to the field, a description of the non-conformance, the magnitude of the escape and suggested immediate containment activities.
QSPEC:	Celestica's Quality Specifications to suppliers for a specific part or material.
Fit:	The external dimensions and associated tolerances of the product as specified by the supplier and/or Celestica.
Form:	The visual appearance including shape, colour, marking, and surface finish of the product as specified by the supplier and/or Celestica.
Function:	The electrical, mechanical, thermal, chemical and performance characteristics of the product as specified by the supplier and/or Celestica.
Process:	A combination of people, procedures, methods, machines, materials, measurement equipment, and/or environment for specific work activities to produce a given product or service
Quality:	The current outgoing quality level of the product as shipped from the supplier.
Reliability:	The ability of the product to meet it's stated performance requirements over time.
Safety:	The safety of the product as indicated by any externally recognized organization, the supplier and/or Celestica.
Change Implementation Date:	The date upon which final assembly of the product incorporates the change
Last Time Buy Date:	The last date on which Celestica can place an order on the supplier for product (refer to Discontinuance Notification section).
Standard Product:	Supplier product that is commercially available in the market.
Custom Product:	Supplier product that is unique to an organization and / or their application.

6. Records

The supplier shall retain documentation of individual PCN information for a minimum of five years after Celestica notification.

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7. Appendices

Examples of when notifications are required

The supplier is expected to notify Celestica of all product and process changes. Examples of changes which are notifiable are listed below.

Design Changes:

Die revision Data sheet specifications
Part programmability External dimensions and associated tolerances

Site Changes:

New manufacturing site Relocation or movement of manufacturing site

Process Changes:

Wafer fab site Wafer diameter
Diffusion dopant Gate oxide material
Gate oxide thickness Dielectric material
Polysilicon dopant type Metallization material
Metallization thickness Top protective layer material
Top protective layer thickness Die coating material
Die coating thickness

Package Assembly Changes:

Assembly site Substrate or lead frame base material
Plating material or process technique (BGA) Solder ball material composition
Wire bond material Wire bond method
Mold compound Encapsulant material
Underfill material Sealing material
Die attach material Flipchip ball/bump and/or attach solder material composition
Marking method Marking appearance (incl. part number marked on product)

RoHS Compliance

Product Moisture Sensitivity Level Maximum process temperature
Tin Whisker information Termination finish or other metallurgical changes
Forward and Backwards process compatibility

Testing

Test site Test elimination
Burn-in change or elimination Electrical Specification
Change in ac specification Change in dc specification
Changes in major test/inspection equipment

Mechanical Specification

Change in case outline loosening tolerance(s) Packing/Shipping /Labeling
Change in Carrier (reel, tray) dimensions Drypack requirements
Environment maximum storage temperature

Other Changes:

Packing / shipping / labelling Carrier type (reel, tray, bulk)
Carrier dimensions Dry pack requirements
Moisture sensitivity levels ESD characteristics

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Hazardous substances content Part numbering schema
 Change of company ownership Plant closure/insolvency
 Changes in compliance Changes in serviceability
 Changes in production line layouts Changes in test methods, assembly and rework process
 Changes in process chemistry
Additional requirements for PWB changes: (Also refer to CELQ-001-SPEC-2 for more specific PCB requirements)
 Fabrication process (any tool number changes) Equipment (type or supplier)
 Chemistry (type or supplier) Sub-contracted services
 Material (such as copper, laminate, core or soldermask) (type or supplier)

**Celestica Notification of Product / Process Changes,
Discontinued Availability and Product Alerts by Suppliers**

8. References

8.1 Internal References

Document Name	Document Number	Current Revision
Celestica's General Quality Requirements for Purchased Parts	DOC0073861 (CELQ-001-SPEC-7)	See EtQ Reliance
Celestica Environmental Requirements for Purchased Components	DOC0075098 (CELQ-033-POL-7)	See EtQ Reliance
Celestica Bar Coding Standard for Procured Production Goods	DOC0078257 (CELQ-033-STD-51)	See EtQ Reliance

8.2 External References

Document Name	Document Number	Current Revision
Customer Notification of Product/Process Changes	JESD46	See standards agency
Product Discontinuance	JESD48	See standards agency
Moisture Classification for SMT Devices	J-STD-020	See standards agency
Handling of Moisture Sensitive SMT Devices	J-STD-033	See standards agency
Stress-Test-Driven Qualification of Integrated Circuits	JESD47	See standards agency
Test Method for Measuring Whisker Growth on Tin and Tin Alloy Surface Finishes	JESD22A121	See standards agency

End of Document
