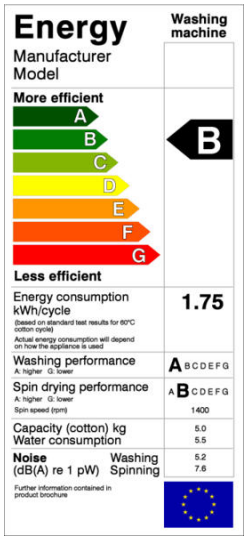
Design For Environmental

Aspects – Practical approach (30')



Benny Poncelet

November 23rd, 2010

PLOT conference 2010

JABIL

Agenda

- Introduction
  - Intended audience
  - Jabil
  - Quiz
  - Design For Environmental – Why Important?
- Aspects, requirements and impacts
- Design For Environmental process
- Process flow within a project @ Jabil
- Material composition reporting tool – RoHS, REACH, …

Intended Audience

- Program / business development
- Design team
  - Project Managers
  - Electrical designers
  - Mechanical Designers
  - SW Designers
  - Product Validation
  - Quality Assurance
- Supply Chain team
  - buyers
- Production
  - IQC
  - Process control

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Jabil

- Jabil is an electronics solutions company providing comprehensive electronics design, production and product management services to global electronics and technology companies such as…
  - Cisco, HP, Philips, Sony, ...
- Jabil is providing customised design support
  - Joint development,
  - Cost down design,
  - DfX, ...
- Jabil is not a brand name owner
  - We do not sell any product to the end-consumer.

Quiz

- Sales / project mgr
  - → Do you understand the impact when a customer requires EPEAT Gold certification?
- Supply Chain (SCM)
  - → How do you verify that suppliers of assemblies have a suitable system in place to proof compliance with the environmental requirements?
- Mech / Electr designers
  - → How do you specify the customer specific environmental requirements towards SCM? (i.e. other than RoHS)
- Electrical designer
  - → What is the max power consumption in stand by mode for the EU EuP directive for complex settop boxes?
- Product Validation
  - → How do you proof compliance with the WEEE recyclability content requirements?

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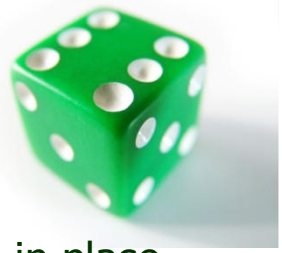

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Design For Environmental – Why Important?

GREEN → → → MORE GREEN

- Legal / statutory / regulatory requirements
  - EU RoHS / China RoHS / REACH / …
- Customer Image
  - Customer specific requirements (Banned Substances – pollution & health of end-users)
  - Energy friendly requirements (e.g. Energy Star)
  - Recycling obligation of customer

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Design For Environmental – Why Important?

- End user / consumer prefers Environmental friendly equipment
  - Less power consumption

- Increased focus is needed
- requirements are changing / growing fast

- Violation of the requirements
- No acceptance of product by customer / government
- Financial claims
- Field recalls

Aspects, requirements and impacts

- Know the aspects
  - Chemical substances
  - Energy consumption
  - Energy efficiency
  - End-of-life

1

- Define the requirements
  - The law!!!!
  - Voluntary requirements
  - Certifications
  - Customer specific requirements
- Understand the impacts
  - Design
  - Documentation
  - Costs
  - Risks

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2

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3

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Aspects, requirements and impacts

- Know the aspects
  - Chemical substances → Lead, cadmium, ...
  - Energy consumption → <1W in Stand-by, ...
  - Energy efficiency → power conversion, light source, ...
  - End-of-life → dissassembly and hazardous substances
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- Define the requirements
  - The law!!!! → RoHS, REACH, EuP, ...
  - Voluntary requirements → Code of Conduct, ...
  - Certifications → Energy Star, EPEAT, ...
  - Customer specific requirements → customer BaRS, recyclability requirements, ...
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HOW?

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Subscribe to newsletters, contacts within the own organisation , trainings, partners...

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Aspects, requirements and impacts

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  - Energy consumption → <1W in Stand-by, ...
  - Energy efficiency → power conversion, light source, ...
  - End-of-life → dissassembly and hazardous substances
- Define the requirements
  - The law!!!! → RoHS, REACH, EuP, ...
  - Voluntary requirements → Code of Conduct, LCA, Carbon footprint, ...
  - Certifications → Energy Star, EPEAT, ...
  - Customer specific requirements → customer BaRS, recyclability requirements, ...
- Understand the impacts
  - Design → component selection, SW features, mechanical construction, ...
  - Documentation → Deliverables for certifications, material composition collection, ...
  - Costs → effort, materials, components, ...
  - Risks → assure compliance to avoid penalties, ...

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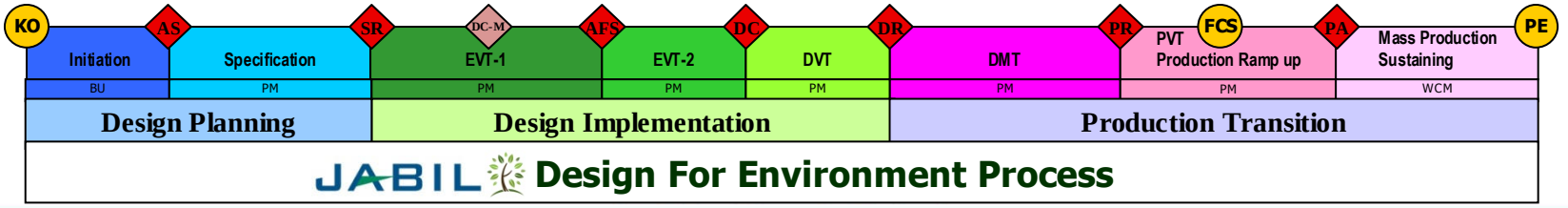
Process flow in a project @ Jabil

Get Contracts and Requirements clear	Design for Environment	Verify Environmental Requirements	Environmental Certifications	Production
Specifiy Requirements	PM: Communicate Green Requirements to SCM	MCR team: Request material declaration from suppliers for each component	PV: Collect required deliverables for 3rd party certifications / approvals	Assure Green compliancy during production
	Design: Select components (EE/ME) meeting the green requirements	PV: Validate if product complies with environmental requirements	Submit data to certification / approval lab in order to get declaration / certification	Changes in Green (legal) requirements (changes in RoHS / REACH / ....)
	Design: Specify Green Requirements on drawings (mechanical parts, packaging, PCB, ...)			
	SCM: Supply Chain communicates Green requirements to each supplier			



Example

- Material composition reporting

HOW?

Full material disclosure (FMD)

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Supplier ABC

Full material disclosure report:
SUPPLIER MPN 1

JIG Compliant Check

MCR Reporting Tool: CfP

PFOS Compliant Check

RoHS Compliant Check

REACH Compliant Check

Customer Specific Requirement Compliant Check

Full material disclosure (FMD)

Supplier ABC

Full material disclosure report:
SUPPLIER MPN 1

JIG Compliant Check

MCR Reporting Tool: CfP

PFOS Compliant Check

RoHS Compliant Check

REACH Compliant Check

Customer Specific Requirement Compliant Check

1 full material composition declaration for multiple requirements!!

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