Possible IPC Counterfeit Avoidance Management Technique

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Next Slides from: Electronic Component Authenticity Concerns

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Authenticity Concerns (Question #1)

Q. When is it necessary to buy from a company that is not the Original Component Manufacturer (OCM) or one of its authorized distributors?

A. When the component is not available from the above sources. For example, the part is obsolete or discontinued (including unavailability of components with tin-lead plated leads), lead time is too great, etc.

Purchasing Practices

Do some defense subcontractors unnecessarily buy electronic components from independent (unauthorized) sources?

Yes

Purchasing Practices

- Not all defense subcontractors buy electronic components from independent distributors without first confirming the parts are not available from authorized sources.
- Locating an authorized source for components can require significant subcontractor time.
- Independent distributors are anxious to save the subcontractor the time (and capture business) by taking a component parts list “off their hands” and finding the parts.

Purchasing Practices

Do all defense subcontractors use good risk mitigation practices when selecting an independent (unauthorized) distributor?

No

Deceptive Practices

Corporate offices (according to website)

Actual “corporate offices”

So What is an IPC Solution?

- Good specification control system
- Develop an industry procedure
- Establish a preferred supplier method
- Create a database tracking method
- Avoid last minute procurement
- Stay away from black market purchases
- ***Build on the material declaration system***
- ***Require adherence to industry methods***

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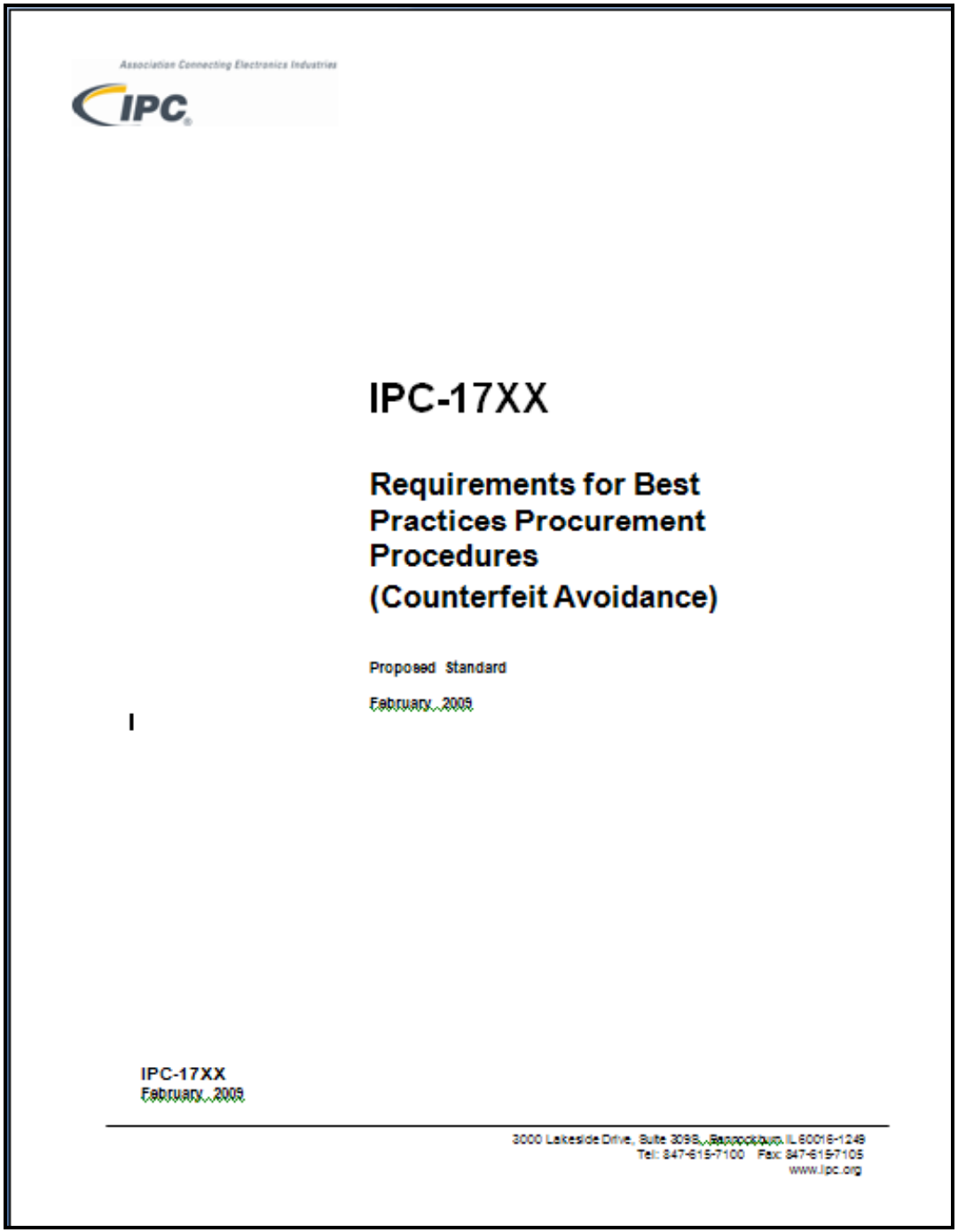
Development of an industry procedure that outlines the does and don't of procurement practices and reference as a requirement in the Purchase Order



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Include in the Standard

- References to existing process control
- Implement requirements of 175X
- Use automated tools to capture data
- Allow suppliers to distribute compliance
- Set up data base capture process
- Require Digital signature for C of C
- Make a Standard not a Guideline
- Legally binding when using **SHALL**

UK Department Trade & Industry

- The defense of 'due diligence' is available where a person can show he took all reasonable steps and exercised all due diligence to avoid committing an offence.

  This may include reference to an act or default or information given by a third party, in which case it must be accompanied by information identifying the third party, or that information in possession of the person making the claim. The Regulations also provide for the 'liability of persons other than the principle offender' and allow a third party to be prosecuted as though they had committed the offence.
- Where an offence by a corporate body is shown to have been committed with the consent, connivance or through neglect of any director, manager or similar officer of the corporate body, they shall be regarded as having committed the offense as well as the corporate body.

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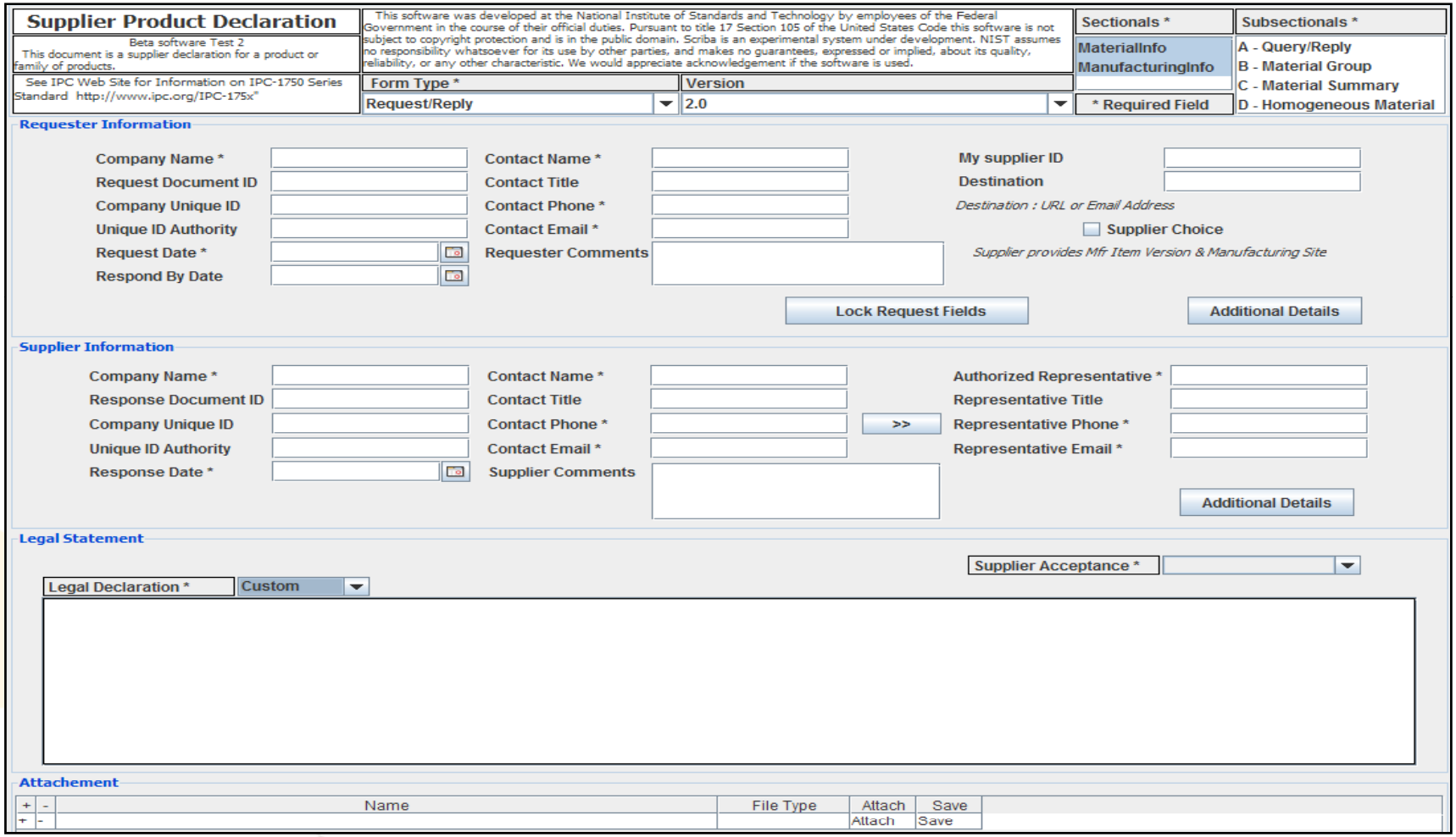
Consider legal responsibility

Use Similar Data Entry Tool



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Request/Reply or Distribute

Various Levels of Traceability

Levels of Traceability (dictated by target markets)

• Process	(Level 1) when	- What was built, where and
• Batch	(Level 2)	- Associates entire materials kit with full production order
• Time Stamp	(Level 3)	- Uses time based method to associate components with PCB IDs at key production stages
• Circuit Reference	(Level 4)	- High accuracy one to one relationship (specific part to specific PCA)

Increasing accuracy

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PCA Traceability Service Levels and Solutions

Traceability service levels

Process traceability

- Level 1 - Process — What was built, where (site, line, equipment), when and by who.

Parts traceability

- Level 2 - Batch — Associates entire materials kit with full production order.
- Level 3 - Time Stamp — Uses time based method to associate reel IDs with PCB IDs at key production stages.
- Level 4 - High Accuracy — Circuit reference one-to-one relationship (specific part to specific reference designator) on a per board basis.

Traceability solutions	(and accuracy)		Service level provided
ERP	0 - 95%	Dependent on batch size, no repairs solution.	Level 2
Manual method	80 - 95%	Expensive for medium/high volumes. Operator error has big impact on accuracy.	Level 1, 2, 3
SFC	>95%	Time stamp solution	Level 1, 2, 3
AMS & SFC	>99%	Circuit reference traceability	Level 1, 2, 3, 4

Most appropriate traceability solution for a site is dictated by many variables e.g. customer's traceability service level requirements, customer's budget, operational model, currently installed IT systems, number of lines, SMT equipment type, % of parts requiring traceability, cost geography etc.

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Conclusions

- Not possible to stop them making parts
- Develop Industry Best procedures
- Establish automation techniques for managing procurement issues
- ***Get industry behind the effort and publish a STANDARD that can be enforced***
- Consider third party monitoring system