



BRITISH ELECTROSTATIC CONTROL ASSOCIATION

# How ESD Safe are your Manufacturing Processes?

## A one day seminar

Wednesday 12th May 2010

At

**Cricklade Hotel & Country Club**

**Common Hill, Cricklade, Wiltshire, SN6 6HA.**

**<http://www.crickladehotel.co.uk>**

### Learn about;-

- ✓ The importance of effective ESD prevention
- ✓ The principles and practice of ESD prevention
- ✓ Understanding ESD sources and HBM, MM and CDM ESD events
- ✓ Evaluating ESD safety of manual and automated processes
- ✓ The importance of controlling body voltage
- ✓ Implementing ESD prevention under BS EN 61340-5-1:2007
- ✓ Choosing equipment and materials for the ESD Protected Area
- ✓ Tailoring the ESD Control Program
- ✓ Who and how to train for ESD protection
- ✓ Practical auditing and testing

**Only £190 (+VAT) per delegate with discounts for group bookings, BECA Members and Associate Members.**

(See booking form on the back page)

**Places are limited - early bookings avoid  
disappointment!**

**BECA Seminar - Wednesday 12th May 2010**

# **How ESD Safe are your Manufacturing Processes?**

## **Seminar overview**

Modern electronics manufacturing processes usually have a mixture of automated and manual stages. While the traditional ESD prevention measures based on Human Body Model (HBM) ESD continue to be of paramount importance in manual processes, Machine Model (MM) and Charged Device Model (CDM) ESD predominates in automated systems. As ESD withstand levels of the most sensitive components continues to drop, the need to evaluate ESD capability of automated as well as manual parts of the process is increasing.

Our keynote speaker Ron Gibson, from Celestica in Toronto, Canada, is one of the foremost world experts in evaluating ESD capability of automated and manual processes and is well known both for his contribution to ESDA and IEC standards and as a consultant and trainer, with many years practical ESD Control experience heading Celestica's ESD Control Program.

Our presentations will cover the principles of successful ESD prevention, as well as practical steps needed for meeting the requirements of BS EN 61340-5-1:2007. Sessions focus on the key requirements of the standard, choosing equipment and materials for the ESD Protected Area, practical test methods and auditing techniques. A panel discussion session will provide a forum for delegates to discuss ESD protection issues with our experts.

The seminar will be invaluable for those experienced in ESD control to update their knowledge of ESD prevention using the current standards and will help newcomers to the subject to gain an understanding of ESD prevention practice.

**The basic seminar cost is £190 + VAT per delegate (with discounts for BECA Members, Associate Members and group bookings), to include delegate pack, refreshments and buffet lunch.**

## **Keynote presentation: A new approach to EPA design - Determining the ESD susceptibility level that you can safely handle**

With ESD sensitive devices becoming ever more sensitive over time, new measurement techniques are required to prove to customers and management that these more sensitive parts can be safely handled. The new approach measures the charge generation and discharges that take place in the ESD sensitive device's critical path. The techniques identify the source of the charge generation, the ESD discharge model that is involved at each process step and the voltage level measured on the ESD sensitive parts. The data gathered can then be compared with actual device ESD sensitivities or with published industry ESD trends to determine whether or not the process provides acceptable protection for the devices being handled.

**Further information and registration is available from:-**

**BECA, Heathcote House, 136 Hagley Road, Edgbaston, Birmingham, B16 9PN, Tel: 0121 454 4141.**

**Fax: 0121 454 4949. Web site: [www.beca.co.uk](http://www.beca.co.uk)**

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# How ESD Safe are your Manufacturing Processes?

## Programme

Session	9.30 – 10.00	Registration and coffee	
	10.00 – 10.05	Welcome	Jeremy Smallwood, BECA Chairman
<b>A</b>	10.05 – 10.20	Why do we need ESD prevention?	Dave Thompson
<b>B</b>	10.20 – 10.50	How to design an effective ESD Control Program	Jeremy Smallwood
<b>C</b>	10.50 – 11.20	Tailoring for ESD protection.	Dave Hawkes
	11.20 – 11.40	Coffee	
<b>D</b>	11.40 – 12.10	Understanding ESD sources – HBM, MM and CDM	Jeremy Smallwood
<b>E</b>	12.10 – 13.00	A new approach to EPA design – determining the ESD susceptibility level that you can safely handle.	Keynote Speaker Ron Gibson
	13.00 – 14.00	Lunch	
<b>F</b>	14.00 – 14.20	ESD and body voltage – the importance of personal grounding	Dave Hawkes
<b>G</b>	14.20 – 14.40	The ESD Training Plan: Who and How?	Dave Thompson
	14.40 – 15.00	Coffee	
<b>H</b>	15.00 – 15.20	The dos and don'ts of an EPA.	Geoff Norman
<b>I</b>	15.20 – 15.40	The Compliance Verification Plan: Auditing and testing.	
	15.40 - 16.00	Discussion Panel.	The presenters
	16.00	Closing remarks.	Jeremy Smallwood
Program subject to change without prior notice			

### Ron Gibson

Ron is Global Engineering Consultant and Corporate ESD Program Manager for Celestica International Inc, providing ESD technical guidance to Celestica's electronic manufacturing sites worldwide. He also provides ESD consulting services to external customers. Ron began his involvement in ESD in 1987 and was involved in the writing of all of IBM's, factory related, ESD standards. He has worked on the development of many ESD Association and IEC Standards including ESD S20:20 and IEC 61340-5-1.

### Dave Hawkes

Dave Hawkes is a founder member of BECA. He has over 25 years experience in electrostatic protection within the electronics industry and in general industrial situations. He is an independent ESD Consultant and the BECA representative on the BSI committee responsible for the 61340-5-1&2 standards.

### Geoff Norman

Geoff Norman has spent 30 years in ESD roles with manufacturing/distribution organisations. Currently on the BECA executive committee, he has been conducting ESD consultancy, auditing and training, in the UK and overseas, to international standards for the last 24 years.

### Jeremy Smallwood

Jeremy Smallwood is BECA Chairman and an electrostatics Consultant working in training, consultancy and research in ESD prevention in electronics manufacture, electrostatic hazards and applications. He is active on several British Standards Committees and Chairman of IEC TC101 Electrostatics.

### Dave Thompson

Dave Thompson has over 25 years experience in ESD protection within the electronics manufacturing industry, primarily in the distribution and manufacture of ESD protection products and also in the provision of consultancy and training.

## DELEGATE BOOKING FORM

**BECA Seminar Wednesday 12<sup>th</sup> May 2010**  
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**Common Hill, Cricklade, Wiltshire, SN6 6HA.**  
<http://www.crickladehotel.co.uk>

Name	Job description	No. of delegates	Rate per person
		1	£190.00 excl. VAT £223.25 incl. VAT
		2	£180.00 excl. VAT £211.50 incl. VAT
		3-4	£170.00 excl. VAT £199.75 incl. VAT
		5+	£160.00 excl. VAT £188.00 incl. VAT

Payment calculation:

Qty:	Item:	@ Price:	Subtotal Amount:
	Non-member Delegates		
	BECA Member delegates	£90.00 excl. VAT (£105.75 incl. VAT)	
	BECA Associate Member delegates	£100.00 excl. VAT (£117.50 incl. VAT)	
	**BECA Associate Membership fee and Seminar package	£150.00 excl. VAT (£176.25 incl. VAT)	
<b>Total amount:</b>			

\*\* Associate Membership (AM), booked with this seminar, extends to 31<sup>st</sup> December 2010 giving an immediate saving of £40.00 + VAT over non-member delegate rate. Renewal in January 2011 would give AM rate entry to 2011 Seminars.

Company:	
Address:	
Tel:	
Fax:	
Email:	

**Please make cheques payable to: British Electrostatic Control Association**

Return with completed form to:

BECA, Heathcote House, 136 Hagley Road, Edgbaston, Birmingham, B16 9PN  
 Fax: 0121 454 4949