

Table 1 Typical Facility Areas To Be Audited
Receiving
Inspection
Stores and Warehouses
Assembly
Test and Inspection
Research and Development
Packaging
Field Service Repair
Offices and Laboratories
Clean Rooms

Similarly, we need to conduct work area and program management audits all of the various processes, materials, and procedures that are used in our ESD control programs. Some of these are shown in Table 2.

Table 2 Typical Processes, Materials and Procedures To Be Audited
Personnel
Moving Equipment (Carts, lift trucks)
Wrist Straps
Floors, Floor Mats, Floor Finishes
Shoes, Grounders, Casters
Clothing
Workstations
Work surfaces
Packaging and Materials Handling



# TRANSFORMING TECHNOLOGIES

OUTSTANDING ALTERNATIVES IN STATIC CONTROL

Ionization
Grounding
Production Equipment
Tools and Equipment (Soldering irons, fixtures, etc.)
Labeling and Identification
Purchasing Specifications and Requisitions
ESD Control Program Procedures and Specifications
ESD Measurement and Test Equipment
Personnel Training
Engineering Specifications and Drawings

## Check Lists

Table 3 Sample Audit Check List ESD Control Program			
<b>Function/Area Audited:</b> Facilities			
Date:			
Auditor:			
EPA (ESD Protected Area)	Y	N	Comments
1. Is the EPA clearly and properly labeled as such?			
2. Is there a Common Point Ground?			
If yes, Is it properly labled?			
3. Is the ESD equipment in the EPA clearly and properly labeled?			
4. Are all non-essential items clear of EPA?			
5. Are all insulative items clear of EPA?			
If no, are Ionizers used?			If yes, Go to Ionizer.
6. Are all charge generating equipment at least 4ft away from EPA?			



# TRANSFORMING TECHNOLOGIES

**OUTSTANDING ALTERNATIVES IN STATIC CONTROL**

7. Are all non-grounded personnel at least 4ft away from EPA?			
8. Is the Relative Humidity (RH) maintained above 40%?			
9. Is the RH regularly monitored and logged?			
Flooring	Y	N	Comments
1. Is there ESD flooring in the EPA?			
If yes, Is the flooring grounded to a Common Point Ground (CPG)?			
If yes, is the floor grounded at proper intervals?			
14. Are personnel working in the ESD controlled wearing foot grounders?			
15. Do personnel check for continuity to ground each time they wear foot grounders?			
16. Are ESD Control requirements imposed on visitors?			

## Reporting and Corrective Action

Upon completion of the auditing process, Reports should be prepared and distributed in a timely manner. Details of the audits need to be fully documented for ISO-9000 or ANSI/ESD S20.20 certification. As with all audits, it is essential to implement corrective action if deficiencies are discovered. Trends need to be tracked and analyzed to help establish corrective action, which may include retraining of personnel, revision of requirement documents or processes, or modification of the existing facility.

## Conclusion

Auditing and training are key elements in maintaining an effective ESD control program. They help assure that procedures are properly implemented and can provide a management tool to gauge program effectiveness and make continuous improvement.