

I300I

Environmental, Safety and Health

Craig Ottesen
I300I ESH Program Manager
craig.ottesen@intl.sematech.org
(512) 356-7455
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**International
300 mm Initiative**

Environmental, Safety and Health

- Key areas for Environmental, Safety and Health (ESH)
 - S2-93A Compliance
 - S8-95 Compliance
 - European Union (EU) Compliance
 - Environmental Characterization
- Key documents
 - I300I ESH Checklist
 - Supplier Ergonomics Success Criteria (SESC)
 - Process tool Effluent Characterization Standard Package
 - SEMATECH Application Guide 2.0 for SEMI S2-93 and SEMI S8-95

SEMI S2-93A

- S2-93A
 - Independent and qualified third party safety assessment of equipment manufacturers process tool
- This means
 - Manufacturers study, understand and design-in the required features
 - Key point: Begin to assess in the design stage

SEMI S2-93A Cont.

- Focus areas
 - Exhaust optimization , use tracer gas or other acceptable test method to design systems, > consumption of air is not acceptable (Exhaust Optimization Package on web)
 - Electrical design review
 - Exhaust and Chemical drain segregation
 - Energy isolation tool level
 - Separate energy isolation component level
 - Fire detection and suppression
 - Acoustic noise measurement

SEMI S8-95

- SEMI S8-95
 - Independent and qualified third party ergonomics assessment of equipment manufacturers process tool
 - Using the Supplier Ergonomics Success Criteria (SESC)
- This means
 - Designers apply the SESC during the design phase
- Focus areas
 - Design for maintenance, Integrate interface terminal, display optimization- keep information simple, easy to read and understand
 - Material handling of heavy components, analysis required so layouts can accommodate or lighter weight materials can be used
 - Tool height impact

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CE Compliance

- CE Mark
 - The European Union (EU) requires equipment to bear the CE mark
- This means
 - Manufacturers maintain a single configuration so it can be used world wide
 - Changes to equipment should be minimized
- To minimize change
 - Meet SEMI S2, S8 and the Essential Health and Safety requirements of Machinery and Low Voltage Directives, ElectroMagnetic Compatibility (EMC) conformance should also be designed in
 - Declare compliance using the Technical Construction File (TCF)

Environmental Requirements

- Chemical utility balance
 - Measure chemical mass balance and environmental emissions
 - Mass balance of water used in the equipment
- Environmental emission reduction
 - Emissions to the air, water and other waste stream will not exceed current 200mm levels on a per wafer basis
 - Hazardous Air Pollutants (HAP), PerFluoroCarbon (PFC) and Volatile Organic Compounds (VOC) emission reduced by 50% of current 200mm levels per wafer
- Emissions Characterization Package on the web

ESH Requirements

- SEMI S2-93A & S8-95, Third Party reports should be available before the Equipment Maturity Assessment (EMA) [Last expected date]
 - SEMI S2-93A, complete section by section report
 - SEMI S8-95, complete SESC
 - European Union Compliance, plans in place for CE mark
 - Environmental, complete Process Tool Effluent Characterization
- Reports and data will be reviewed by I300I ESH representative
- ESH information is included in the demonstration report. No report will be issued at the Director level without satisfactory ESH assessment.
- Tools installed in the Process Support and Metrology Center (PSMC) must have the SEMI S2 completed and Level A items corrected prior to installation (Also recommended before field EMA)

Environmental, Safety and Health

1Q98	2Q98	3Q98	4Q98	1&2Q 1999
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Supplier Kickoff meetings I300I ESH expectations set

Only Carry-over Tools for 1999

I300 ESH assignee

Supplier Deliverers to I300I SEMI S2 & S8, CE, Env. data

Strawman I300I ESH Checklist & Documents

I300I ESH review of SEMI S2 , SESC, CE , Env. Char. , Exh.

Issues addressed with supplier, Generate Roadmap

Supplier collects missing data and responds to I300I

ESH team approval of Checklist & Documents

Summary report to member companies

ESH included as separate item in Demonstration Report File

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