



SEMI S27-0310

SAFETY GUIDELINE FOR THE CONTENTS OF ENVIRONMENTAL, SAFETY, AND HEALTH (ESH) EVALUATION REPORTS

This safety guideline was technically approved by the global Environmental Health & Safety Committee. This edition was approved for publication by the global Audits & Reviews Subcommittee on December 16, 2009. Initially available at www.semi.org in February 2010.

1 Purpose

1.1 The purpose of this document is to improve the consistency and readability of evaluation reports documenting evaluations of Manufacturing Equipment (ME) to SEMI Safety Guidelines.

NOTE 1: As defined in § 4.2, ME includes equipment used to manufacture flat panel displays and related products.

2 Scope

2.1 This document applies to reports of evaluations of ME as to its conformance to SEMI Safety Guidelines.

NOTICE: This standard does not purport to address safety issues, if any, associated with its use. It is the responsibility of the users of this standard to establish appropriate safety and health practices and determine the applicability of regulatory or other limitations prior to use.

3 Referenced Standards and Documents

3.1 SEMI Safety Guidelines

SEMI S2 — Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment

SEMI S7 — Safety Guideline for Evaluation Personnel and Evaluating Company Qualifications

SEMI S8 — Safety Guidelines for Ergonomics Engineering of Semiconductor Manufacturing Equipment

SEMI S10 — Safety Guideline for Risk Assessment and Risk Evaluation Process

SEMI S22 — Safety Guideline for the Electrical Design of Semiconductor Manufacturing Equipment

4 Terminology

4.1 Abbreviations and Acronyms

4.1.1 *ME* — manufacturing equipment

4.2 Definitions

4.2.1 *cumulative report* — report showing the history of the evaluation, including initial findings, requests for further information, changes to the ME in the course of evaluation, and subsequent findings.

4.2.2 *evaluation personnel* — personnel (e.g., employees or subcontractors) who, as agents of the evaluator, participate in the evaluation.

4.2.3 *evaluation purchaser* — the party that pays the evaluator to perform the evaluation.

4.2.4 *evaluator* — the party examining ME and making a finding as to whether the ME conforms to a SEMI Safety Guideline.

4.2.5 *final report* — the complete evaluation report, provided to the evaluation purchaser, that includes the findings as to whether or not the ME or sub-system that was evaluated conforms to the Safety Guideline. A final report is not an interim, cumulative, or supplementary report.

4.2.6 *interim report* — report created to document the progress of an evaluation.

4.2.7 *manufacturing equipment (ME)* — equipment used to manufacture, measure, assemble, or test semiconductor, flat panel display, or related products. It includes the equipment that processes substrates (e.g., silicon wafers, reticles), its component parts, and its auxiliary, support or peripheral equipment (e.g., chemical controllers, chemical

delivery systems, vacuum pumps). ME also includes other items (e.g., structures, piping, ductwork, effluent treatment systems, valve manifold boxes, filtration, and heaters) specific to and provided with the aforementioned equipment, but does not include such an item if the item is part of a facility and can support more than one piece of ME.

4.2.8 *ME manufacturer* — the party that has control of the design and manufacturing of ME.

4.2.9 *subsystem* — an assembly of two or more components that is manufactured as a single entity. A subsystem must be combined with one or more additional components or subsystems to form a complete system.

4.2.10 *supplementary report* — report that is created when changes are made to equipment and an evaluator's opinion is requested that does not require a full update of a final report. Many elements of a supplementary report may be included in one or more separate, referenced evaluation reports.

4.2.11 *system* — an integrated structure of components and subsystems capable of performing, in aggregate, one or more specific functions.

5 Report Types

5.1 The evaluator may issue one or more interim or cumulative reports. These include tentative findings as to conformance to some of the criteria of the Safety Guideline and identify those items for which further information is needed to complete the evaluation.

NOTE 2: Equipment evaluations may take place at varying stages in product development and may be performed on complete equipment, incomplete equipment, or equipment subsystems. As a result, evaluation reports may take many forms depending on the type and state of the equipment being evaluated and to which SEMI Safety Guideline it is evaluated.

5.2 At the conclusion of work (the end of the evaluation engagement), the evaluator should issue a final report, including the findings made regarding the conformance of the ME to the Safety Guideline(s), unless the evaluation purchaser and evaluator agree that a final report is not included in the scope of work.

5.3 Interim, cumulative, and final reports can be for complete ME or for a subsystem.

5.4 *Subsystem Reports*

5.4.1 A subsystem final report should include separate lists of those paragraphs of the relevant Safety Guideline:

- to which the subsystem conforms by itself,
- for which the subsystem relies on integration for conformance,
- that are found to be Not Applicable to the subsystem, and
- to which the subsystem is found not to conform.

5.4.2 Subsystem reports should also include a description of what is required of the integration for the subsystem to conform to the Safety Guideline.

6 Structure and Contents of Reports to be Provided to ME Purchasers

NOTE 3: The ME purchaser may be an integrator or an end user.

6.1 Reports should conform to the reporting provisions, if any, of the Safety Guideline to which the evaluation is performed. The structure of the evaluation report should follow the structure of the Safety Guideline to which the ME has been evaluated. The reporting format should present results correlating to the criteria as they appear in the Safety Guideline.

NOTE 4: Providing images (e.g., photographs, drawings or animation) can enhance the report.

6.2 Reports should describe the scope of the assessment, both as to what portions of the equipment were assessed and as to what portions of which Safety Guidelines it was assessed.

6.3 Reports should have identifiable page numbers. Where practical, the preferred format for page number is [page number] of [total number of pages].

6.4 The description of the ME, residual risks, and risk mitigation measures that have been put into place should enable someone not familiar with the ME to understand what is being reported.

6.5 Evaluation reports should include the elements described in § 6.5.