

SEMI S7-0310

SAFETY GUIDELINE FOR EVALUATION PERSONNEL AND EVALUATING COMPANY QUALIFICATIONS

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. Originally published in 1994; previously published in 1996.

NOTICE: This document was completely rewritten in 2009.

1 Purpose

- 1.1 This document is intended to enable report users to determine the qualifications of the evaluating company and evaluation personnel.
- 1.2 This document provides the minimum information that should be available regarding evaluating companies and the evaluation personnel within those companies for doing evaluations to the SEMI “S” family of documents.
- 1.3 This document provides guidance on how this information should be communicated when requested by the applicable SEMI “S” document or the evaluation purchaser.

2 Scope

2.1 This document provides guidance about the evaluating company and evaluation personnel qualifications for evaluations to the SEMI “S” family of documents.

2.2 This document includes:

- Purpose
- Scope
- Limitations
- Referenced Standards and Documents
- Terminology
- General
- Evaluating Company Qualifications
- Evaluation Personnel Qualifications
- Areas of Expertise

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

3 Limitations

3.1 This document does not state the minimum acceptable qualifications for organizations or personnel evaluating manufacturing equipment (ME) to SEMI “S” documents. The establishment of minimum qualifications for the evaluating organizations and personnel is considered to be a contractual issue between the evaluator and the evaluation purchaser.

NOTE 1: This purpose of this document is to address the communication of the qualifications of the evaluator and evaluation personnel. This will not necessarily address the quality of evaluation services, which is a commercial issue between the evaluator and evaluation purchaser.

4 Referenced Standards and Documents

4.1 SEMI Safety Guidelines

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

SEMI S3 — Safety Guidelines for Process Liquid Heating Systems

SEMI S6 — EHS Guideline for Exhaust Ventilation of Semiconductor Manufacturing Equipment

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

SEMI S14 — Safety Guidelines for Fire Risk Assessment and Mitigation of Semiconductor Manufacturing Equipment

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

SEMI S23 — Guide for Conservation of Energy, Utilities and Materials Used by Semiconductor Manufacturing Equipment

SEMI S26 — Environmental, Health, and Safety Guideline for FPD Manufacturing System

4.2 ISO Standards¹

ISO 9000 — Quality Management Systems

ISO/IEC 17000 — Conformity Assessment

ISO/IEC 20000 — Information Technology – Service Management

5 Terminology

5.1 Abbreviations and Acronyms

5.1.1 *ATL* — Accredited Testing Laboratory

5.1.2 *CIH* — Certified Industrial Hygienist

NOTE 2: For more information on the CIH certification contact American Board of Industrial Hygiene, 6015 West St. Joseph, Suite 102, Lansing, MI 48917-3980 U.S.A. Telephone: 517.321.2638; <http://www.ABIH.org>.

5.1.3 *CLSO* — Certified Laser Safety Officer

NOTE 3: For more information on the CLSO certification contact Board of Laser Safety, 13501 Ingenuity Drive, Suite 128, Orlando, FL 32826 U.S.A. Telephone: 407.380.1553; Fax: 407.380.5588; <http://www.lasersafety.org>.

5.1.4 *IH* — Industrial Hygiene

5.1.5 *ISO* — International Organization for Standardization

5.1.6 *ME* — Manufacturing Equipment

5.1.7 *PE* — Professional Engineer

NOTE 4: For more information on the professional engineer certification contact National Society of Professional Engineers, 1420 King Street, Alexandria, VA 22314 USA; Telephone: 703.684.2800; <http://www.nspe.org>.

5.1.8 *RF* — Radio-Frequency

5.1.9 *SEMI* — Semiconductor Equipment and Materials International

5.2 Definitions

5.2.1 *accredited testing laboratory* — an independent organization dedicated to the testing of components, devices, or systems that is recognized by a governmental or regulatory body as competent to perform evaluations based upon an established set of safety standards.

5.2.2 *evaluation personnel* — personnel (e.g., employees or subcontractors) who, as agents of the evaluating company, participate in the evaluation of manufacturing equipment.

5.2.3 *evaluation purchaser* — the party that pays the evaluating company to perform the evaluation.

¹ International Organization for Standardization, ISO Central Secretariat, 1 rue de Varembe, Case postale 56, CH-1211 Geneva 20, Switzerland. Telephone: 41.22.749.01.11; Fax: 41.22.733.34.30; <http://www.iso.ch>

5.2.4 *evaluating company* — the party examining ME and making a finding as to whether the ME conforms to the criteria of a SEMI “S” document.

5.2.5 *manufacturing equipment (ME)* — equipment used to manufacture, measure, assemble or test 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.

6 Qualifications Statement

6.1 The evaluating company should provide to its customer a description of the qualifications of the organization and its evaluation personnel as a part of, or an adjunct to, the evaluation report. This qualifications statement should address the qualifications for evaluating the equipment and for evaluating to the SEMI “S” document using the guidance of this document. The qualifications statement should include the qualifications (per the criteria of this document) of the organization and personnel at the time of the evaluation.

NOTE 5: An evaluating company may include the information described in this document in its sales and marketing material.

6.2 The statement of qualifications should address all of the subjects of concern applicable to both the ME under evaluation and the SEMI “S” document to which it was evaluated. These subjects may include: safety circuits, electrical design and construction, fire risk and protection, process liquid heating systems, ergonomics, mechanical movement and robotics, structural and seismic design and construction, chemical containment and exposure control, ventilation, ionizing radiation, non-ionizing radiation, optical and laser radiation, and energy/utility measurement.

6.3 The statement of qualifications should clearly differentiate among the individual qualifications (per § 8) of the personnel that directly participated in the evaluation, the qualifications of personnel that provided technical support to the evaluation, and the qualifications of the evaluating company (per § 7).

6.4 The evaluation personnel should be identified in the statement of qualifications.

6.5 If a subcontractor is used, for example, to address the laser or IH aspects of the evaluation, the qualifications statement should include or refer to the qualifications of the subcontracted company and personnel that participated in the evaluation.

NOTE 6: Adequate coverage by Non-Disclosure Agreements (NDA) may be another concern when subcontractors are used, but this is a contractual issue and beyond the scope of this document.

NOTE 7: Both ¶ 6.3 and ¶ 6.5 are focusing on those personnel that go to the field and operate independently vs. lab technicians that work at their company site and have full company resources for support (e.g., lab technicians evaluating collected IH samples).

7 Evaluating Company Qualifications

7.1 The evaluating company statement of qualifications should include the topics described in §§ 7.2 through 7.7.

7.2 *Quality Program* — A description of the quality program and any external reviews/certifications of this program. The description should include the following topics.

NOTE 8: A quality program that has been certified to ISO 9000 or ISO/IEC 17000 typically includes the indicated topics.

7.2.1 *Review Process* — The company should describe its review process for its deliverables and contracted services.

7.2.2 *Training* — Company methods, processes or on-going training requirements related to equipment evaluation, whether this be external training or sharing of knowledge among company employees.

7.3 *Integration of Personnel*

7.3.1 A description indicating how the knowledge and expertise of particular individuals is shared within the evaluating company.

EXCEPTION: If the evaluating company is a single person and has no plans for adding personnel or using subcontractors, such a statement is sufficient to address this paragraph.