

SEMI S24-0306

SAFETY GUIDELINE FOR MULTI-EMPLOYER WORK AREAS

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1 Purpose

1.1 This safety guideline provides methods to establish safe working environment where personnel of different companies (entities) share a work area in a fab or where work by employees of one company in one area may comprise a hazard to employees of another company in an adjacent area.

2 Scope

2.1 Applicability

2.1.1 This Safety Guideline applies to work areas shared by personnel of different companies, such as equipment suppliers, facility suppliers, user's contractors and users.

2.1.2 This Safety Guideline applies where work by employees of one company in one work area comprises a hazard to employees of another company in an adjacent work area.

2.1.3 The work activities to which this safety guideline applies include installation, start-up, de-installation, wafer size conversion, and overhaul.

2.2 Criteria Established

2.2.1 This guideline establishes criteria for the user's, supplier's and contractor's responsibility for a safe working environment.

2.2.2 This guideline establishes criteria for the responsibilities of each supplier's and contractor's work supervisors.

2.2.3 This guideline establishes criteria for a Safety Supervisors' Communication Council (SSCC) as the organization to ensure human safety in multi-employer work areas and where work by employees of one company in one work area comprises a hazard to employee of another company in an adjacent work area.

2.2.4 This guideline establishes criteria for methods of safety patrol with the user's support in multi-employer work areas and where work by employees of one company in one work area comprises a hazard to employees of another company in an adjacent work area.

2.3 This guideline contains the following sections:

- Purpose
- Scope
- Limitations
- Referenced Standards
- Terminology
- General Concept
- User Actions
- Work Supervisor
- Safety Supervisors' Communication Council (SSCC)
- Safety Patrol

NOTE 1: An example of observation check sheet for the safety patrol is given in the Related Information 1.

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 safety guideline is not intended to supersede the local applicable codes and regulations.

4 Referenced Standards and Documents

4.1 SEMI Standards

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

SEMI S19 — Safety Guideline for Training of Semiconductor Manufacturing Equipment Installation, Maintenance and Service Personnel

SEMI S21 — Safety Guideline for Worker Protection

NOTICE: Unless otherwise indicated, all documents cited shall be the latest published versions.

5 Terminology

5.1 Abbreviations and Acronyms

5.1.1 *FPD* — Flat Panel Display

5.1.2 *PPE* — Personal Protective Equipment

5.1.3 *SSCC* — Safety Supervisors' Communication Council

5.2 Definitions

5.2.1 Definitions in SEMI S2, SEMI S19 and SEMI S21 are incorporated herein by reference, unless the term is defined within this section.

5.2.2 *abnormality* — a condition or behavior different from normal or predetermined state that can result in an incident or accident.

5.2.3 *adjacent work area* — a work area that shares a common boundary with the work area being considered. The common boundary may separate the areas horizontally (e.g., the areas are on opposite sides of a wall) or vertically (e.g., one work area is in a cleanroom and the other in the subfab directly underneath it).

5.2.4 *contractor* — a company hired to accomplish a contractually specified scope of work, such as constructing a facility or providing service.

5.2.5 *de-installation* — the process of disconnecting, disassembling, and moving semiconductor or FPD manufacturing equipment from its point of installation, including movement of assemblies and further preparation (e.g., isolating, decontaminating, component disposal) of chemically contaminated semiconductor or FPD manufacturing equipment for a safe move.

5.2.6 *equipment supplier* — party who provides equipment to and communicates directly with the user. A supplier may be a manufacturer, an equipment distributor, or an equipment representative.

5.2.7 *fab* — a facility in which semiconductor devices or flat panel displays are manufactured.

5.2.8 *facility supplier* — party who provides a facility or facility service (e.g., nitrogen) to, and directly communicates with, the user. A facility supplier may be a construction company, a manufacturer or distributor of facility equipment (e.g., deionization systems), or a facility service provider.

5.2.9 *installation* — the activities performed after the equipment is received at a user site through preparation for initial service, including transportation, lifting, uncrating, placement, leveling, and facilities fit up. [SEMI S8]

5.2.10 *multi-employer fab* — a fab in which employees of more than one company work. The workers may or may not be present at the same time for a fab to be considered “multi-employer”.

5.2.11 *multi-employer work area* — a work area in which employees of more than one company work. The workers may or may not be present at the same time for an area to be considered “multi-employer”.

5.2.12 *overhaul* — major disassembly, replacement of components as necessary, and reassembly.

5.2.13 *start-up* — the initial energization of semiconductor or FPD manufacturing equipment from each source of energy that may introduce a hazard to the semiconductor or FPD manufacturing equipment itself, the persons performing the installation, or the facility.

5.2.14 *supplier* — an equipment supplier or facility supplier.

5.2.15 *unit of work* — the extent of work which is directly controllable by a supervisor.

NOTE 2: It is very difficult for a supervisor to control works performed on plural pieces of equipment installed in different rooms or floors.

5.2.16 *user* — party who acquires equipment for the purpose of using it to manufacture semiconductors or FPDs.

5.2.17 *work area* — room or defined space where semiconductor or FPD manufacturing equipment is located and where workers are present. This can include service chases and sub-fab areas.

5.2.18 *work supervisor* — person who manages workers directly as a team leader to conduct a unit of work.

6 General Concepts

6.1 The users, suppliers and contractors should reduce risks in their own tasks and have their people work safely.

6.2 The user should coordinate the work schedules of the suppliers and the contractors who work simultaneously in the multi-employer and adjacent work areas.

6.2.1 The user should explain to each supplier or contractor how to communicate unexpected schedule changes to the affected parties.

6.2.2 Each supplier or contractor should submit a work schedule through whole tasks before starting an initial task. The supplier or contractor should submit a revised schedule to the user at every update.

6.2.3 Based on the work schedule, the user should provide the necessary safety information such as PPE, safety alarms, evacuation route, and safety devices (safety net, eye shower, fall protection, etc.) to its employees and to the affected suppliers and contractors.

7 User Actions

7.1 The user should provide the safe working environment for all people who work in its fab. In order to do so, the user should also encourage mutual communication among the suppliers and contractors.

7.1.1 *Safety Management Plan Notification* — Based on the work process, work schedule, and facility layout plan, the user should disclose the safety management plan during the installation/overhaul and startup period including such items as fundamental policy of safety management, target, and important points of hazard prevention.

7.1.2 Provision of safety net and anchorage (hookup facility) point for personal fall protection equipment (safety harnesses) should be included in the safety management plan.

7.2 The user should establish a Safety Supervisors' Communication Council (SSCC).

7.3 The user should conduct a SSCC meeting in which representatives of the user and all the suppliers and the contractors should participate. The suppliers and the contractors should attend the SSCC meeting each workday.

7.4 The user should coordinate the suppliers' and the contractors' workers to work together safely.

7.5 When the workers of different companies conduct work separately in the upper and lower rooms of the same area, they should communicate each other and coordinate their work before and during the work, under the leadership of the user.

7.6 At work locations where the workers may face hazards, relevant work supervisors should communicate well and coordinate with each other for the work under the leadership of the user.

7.7 The user should instruct the suppliers' and the contractors' workers so that their tasks should be carried out after setting up incident/accident preventive facilities and preparing PPE.

8 Work Supervisor

8.1 Each supplier should designate a responsible person, called "work supervisor", as a representative of the supplier for each unit of work.

8.2 The work supervisor should also communicate with the user and other work supervisors and make efforts to reduce the risk to the employees of all of the employers.

8.3 The work supervisor should make himself/herself identifiable by others by wearing an identifying item, such as colored cap, colored band, or badge.

NOTE 3: We recommend identification method is consistent for all supervisors at the given site.

8.4 When the work supervisor leaves the workplace, he/she should transfer his/her responsibility to his/her substitute.

8.5 *Tasks of the Work Supervisor* — The work supervisor should:

8.5.1 Attend the SSCC meeting.