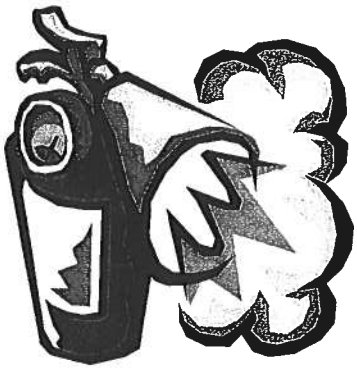
Fire Prevention Plan



Control Information

Control Item	Details
Owner	Scott Norman
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Revision History

Revision	Date	Revision Description	Originator	Approved by
A	July 25, 2000	New Document	Scott Norman	
B	Sept 7, 2000	1.0 change to scope 2.0 added Fire extinguisher use policy 3.0 added table for potential fire hazards 4.0 Fire Protection Equipment – renumbered 5.0 Additional elements - renumbered	Scott Norman	
C	Nov 2, 2000	Added document control Added Management approval Added Lumileds to section 1.0 Added emergency procedures to section 2.0 Added other potential Fire Haz to section 3.0 Rewording in section 5.0 Added inspection guidelines to section 5.6	Scott Norman	Barrie Simpson Environmental manager

1.0 Scope and Application

This document fulfills CAL-OSHA requirements for a written Fire Prevention Plan specified in CCR Title 8 §3221, Fire Prevention Plan and CCR Title 8 §6151, Portable Fire Extinguishers

This plan covers Agilent Technologies Semiconductor Products Group Bay Area Regional sites at 39201 Cherry Street in Newark, 350 Trimble Road in San Jose, and 3175 Bowers Avenue in Santa Clara and LumiLeds Operations in Building 91, 370 Trimble Road, San Jose, CA.

2.0 Fire Extinguisher Use Policy

Agilent Technologies employees **are not** expected to fight incipient stage fires! Only trained ERT members should use portable fire extinguishers provided within the facility.

Emergency Procedures: If a fire is discovered, immediately evacuate all people from the area, call 2222 to report the fire.

Portable Extinguishers may only be used to extinguish a fire when:
All people have been evacuated.
The fire department has been called
The fire is small and within your ability to extinguish
The appropriate portable extinguishers are immediately available
You have been trained in the safe use of portable Fire Extinguishers within the last 12 months.

3.0 Potential Fire Hazards – see Site HMMP for complete details

Potential Hazard	Handling & Storage Procedures	❖ Potential Ignition Source and • related control	Fire Protection System
Flammable & Combustible Liquids (i.e. cleaning solvents used in fabs, photoresists)	• Stored in Flammable Liquid Storage Cabinets or passthroughs and chemical storage bunkers • Used in non-flammable tools with ventilation • Do not use near ignition sources	❖ Electrical equipment • No smoking in work areas or chemical storage areas • Use flammable liquids under ventilated enclosure • No ignition sources near flammable liquid use	• Fire sprinkler systems for storage bunkers and passthroughs. • Fire sprinkler system in tools and hoods using flammable liquids
Flammable Gases (i.e. hydrogen plumbed to tools, propane for BBQ grills and forklifts) **Pyphoric Gases** (silane, phosphine)	• Stored in gas cabinets • Plumbed directly into process tool	❖ Exposure to air (pyrophoric) ❖ Electrical equipment • Closed systems • No smoking in gas storage areas	• Exhaust ventilation • Fire sprinklers • Leak detection monitoring system
OrganoMetallics (pyrophoric liquids)	• Stored in bunker 8 bldg 91 service yard, SJ • Plumbed directly into process tool	❖ Exposure to air • Closed systems	• Fire sprinklers

3.1 Other Potential Ignition Sources

Hazard	Control Method
Smoking materials	No smoking allowed in buildlings or near chemical or gas storage areas.
Sparks from welding and cutting operations	Managed through Factory Mutual Hot Work Permit process

4.0 Fire Protection Equipment

4.1 Fixed Fire Suppression Systems

Fixed fire suppression systems rated for the respective occupancy class are installed in all buildings as mandated by local jurisdiction.

4.1.1 Additional fixed fire suppression systems (halon, FM 200, Ansul, Fine Water Mist) are installed in or around high hazard areas and specific process tools such as the wet benches, chemical storage bunkers, and kitchen cooking grills.

Smoke Detectors are located in HVAC ductwork and the sprinkler system has water flow switches. Both are monitored by a 24 hr on site security response center and RFI.

4.1.2 Maintenance and Testing

Facilities Maintenance and Security perform regular testing of the fire suppression systems in accordance with local jurisdiction.

4.2 Portable Fire Extinguishers

Portable Fire Extinguishers are located in the work areas as required by local jurisdiction. Occupancy class influences placement and travel distance. Clearance is maintained and checked by regular safety inspections.

- Office Areas – generally have ABC Dry Chemical Extinguishers rated at 3A:40BC.
- Assembly / Test / R&D (non Fab)Areas – generally have ABC Halon Fire Extinguishers rated at 3A:40BC.
- High Hazard Areas (Fabrication Areas / Chemical Storage Areas) – generally have 4A:80BC (Halon in Fabs) fire extinguishers.
- Kitchens have Purple K fire extinguishers near grease fryers in addition to general occupancy ABC Dry Chemical Fire Extinguishers.

4.2.1 Maintenance of Portable Fire Extinguishers

Security officers are assigned to perform monthly inspections of all mounted portable fire extinguishers checking for clear access, secure mounting, pressure within "green" zone, lock tab in place, annual re-certification not expired.

Facilities Maintenance and Security coordinates a vendor to perform annual re-certification / recharge of all portable fire extinguishers.
(COAST FIRE and ACE FIRE are currently being used for this service.)

4.2.2 Training for Portable Fire Extinguisher Use

ERT members are trained annually in the proper use of Fire Extinguishers through combination lecture, video, and hands on demonstration.

Training emphasizes the following: immediately pull fire alarm to evacuate building and call 2222 to instruct security to notify the fire department, only attempt to fight small fires, have an escape plan, expect the fire to re-ignite, never turn your back on fire.

5.0 Additional Elements

5.1 ***Hot Work Process*** based on Factory Mutual Guidelines has been implemented and is followed by Facilities Maintenance and Project Management for internal work and contracted work involving activities creating sparks or involving open flame.

5.2 ***Chemical Safety Training***, required for all employees working with chemicals, covers the chemical hazards associated with the employee's job including flammable materials and how to control the hazards.

5.3 ***New Employee Orientation*** discusses response to fire alarms and Fire Extinguisher location and operation for trained employees only. See NEO "Emergency Guidelines and Information" sheets.

5.4 ***Life Safety Team*** technicians (Eric Dugdale, manager) perform maintenance and testing of the life safety systems including the fire alarm systems.

5.5 ***DI / Waste Treatment Team*** collects the hazardous waste including flammable and combustible waste. *Saul Montez* (phone 435-4342) Contact phone number 970-2727, facilities service center, is posted on site. ***Stewart Crook*** (435-4161), Environmental Specialist, is called on to answer specific disposal related issues.

5.6 Housekeeping Guidelines *(from Section 1 of the **EHS Inspection Guidelines**)*

Fire Safety **EHS Inspection Guidelines**

1.01 GENERAL (reference - Uniform Fire Code) All conditions which may lead to or sustain an accidental fire or cause injury in the event of an fire must be corrected as soon as possible.

1.02 AISLES AND EXITS

- Aisles and work space corridors must be kept clear of obstructions and be wide enough to accommodate normal traffic. (Minimum 36")
- Emergency exits and aisles must be kept free of obstructions at all times. No empty boxes or trash in hallways!
- Aisles, walkways, or work areas must be free of trip hazards; under all lighting conditions.

1.03 EXIT SIGNS

- Exit signs shall be installed and in working condition so that the location or direction of exits can be seen from any point within the facility. Signs shall be visible in the absence of normal lighting. (Report burned out exit signs to facilities)

1.04 HOUSEKEEPING

- Trash must not be allowed to accumulate and materials must be stored in an organized manner. No empty boxes or trash in the hallways!
- Doors along fire corridors must be kept closed.

1.05 FIRE EXTINGUISHERS

- Fire extinguishers and signs identifying their location must be positioned throughout the facility. (50 ft travel distance to a fire extinguishers in Fabs and chemical areas. Up to 75 ft travel distance to fire extinguishers in low hazard / office areas.)
- Access to Fire Extinguishers must be kept clear . . . 36 inches minimum on all sides. (Floor tape to indicate the area to be kept clear is recommended).
- Fire extinguishers must be secured to the wall with a sign over head. Notify facilities of loose mounting brackets.
- Fire Extinguishers are inspected monthly by security or facilities. Low pressure, broken seals, missing pins, discharge or damage must be reported to security.
- Clean rooms, test & assembly areas, R&D areas, and data processing areas shall have non-particulate fire extinguishers such as Halon or carbon dioxide.
- Fire extinguishers shall not be moved from their intended location except for use in extinguishing a fire and annual service.
- ***All extinguishers must be the appropriate type and rating for the area serviced:***
  - **Light Hazard / Office Areas** - *Dry Chemical Extinguisher* - Minimum 2A10BC rating (3A40BC Dry Chemical Extinguisher Recommended)
  - **Kitchen / Cooking Areas** – *Class K Extinguisher – Wet Extinguisher*
  - **Clean Room Fabs / High Hazard Areas** – *Halon Extinguisher* – Minimum 4A80BC rating
  - **Chemical Storage Areas / High Hazard Areas** – *Dry Chemical Extinguisher* – Minimum 4A80BC rating.

1.06 OPENINGS IN WALLS / CEILINGS / FLOORS

The floor, ceiling, and walls are designed to slow down the spread of flames during a fire. Notify facilities of needed repairs.

- ***Missing ceiling tiles must be replaced. Damaged ceiling tiles must be replaced.***
- Openings and Holes in walls and floors must be repaired to prevent the spread of fire.

1.07 SPRINKLER CLEARANCE

- No materials may be stored higher than a line located 18 inches from the bottom of sprinkler heads.
- Report leaking or damaged sprinkler heads to facilities. Report loose sprinkler collars to facilities.

1.08 FLAMMABLE LIQUIDS

Storage and use of flammable substances must follow local fire codes.

- All Flammable liquids must be stored in UL or FM Approved Metal containers in approved Flammable Storage Cabinets.
- Flammable liquids must be used within a non-combustible ventilated hood with no ignition sources. (The only exception being small pump top bottles of IPA or Acetone)
- Heat sources shall be isolated and NO SMOKING areas designated whenever flammable substances are used.

1.09 WELDING / HOT WORK

- All welding, grinding, torch cutting, or brazing done by in-house or contractor employees must be performed in accordance with Hot Work Procedures. Details of this program are available from Facilities. Hot work permits must be completed and filed.

Fire Safety Services

No.	Auditing	Brief Description of Service
1.	Fire Risk Assessment	The scope of the assessment shall be the entire Factory facilities to include a review of the Fire Safety Management System and Fire Equipment & Systems. Please note that this is a very in-depth audit similar to which a Fire Insurance Company would audit.
2.	Functional Checks	Functional Checks performed on individual fire equipment, fire detection & protection systems. This obviously would be limited to the amount & type of test equipment available but correct advice can be given on the checks required.
No.	**Training & Servicing**	**Brief Description of Service**
3.	Basic Fire Training	Conduct basic fire training – classroom & practical. Either personally or can arrange through various known companies in the region.
4.	Service Schedules	Set up inspection, testing & maintenance schedules & records for all fire related equipment & systems at a Factory.
5.	Servicing	Review Service Contracts for inspection, testing & maintenance of fire related equipment & systems. Audit Fire Service Centres on behalf of Factory.
No.	**Procedures & Policies**	**Brief Description of Service**
6.	Fire Safety Policy	Specifically written for a Factory.
7.	Fire Safety Code of Practice	A written 'one stop' Code to implement & monitor a Factory Fire Safety Policy.
8.	Emergency Evacuation & Fire Drill Plan	Specifically written for every building at a Factory's facilities. Implementation & Training of the Plans.
9.	Smoking Policy	Specifically written for a Factory.
10.	Fire Incident Report	Generic Report Form.
11.	Permits to Work	Generic Permit Form i.e. Hot Works Permit.
12.	Housekeeping	Checklists for Fire related Housekeeping.

No.	First Aid Fire Fighting	Brief Description of Service
13.	Implement Factory Fire Concept / Culture	Identification of main fire points, individual fire extinguisher placement points, fire notice boards, first aid points, emergency lighting, illuminated fire exit signs, emergency escape routes, fire safety signs & hosereel system and other auxiliary fire fighting equipment.
14.	Consultancy - Budgeting	Assisting Factory in sourcing first aid fire fighting equipment @ competitive pricing i.e. put the Factory in direct contact with fire equipment manufacturing companies. Set up favorable pricing structure.
15.	Contracting - Installation	Supervising installation of main fire points, individual fire extinguisher placement points, fire notice boards, first aid boxes, emergency lighting units, illuminated fire exit signs, emergency escape route signage, fire safety signs & hosereels.
No.	**Design, Supply & Install**	**Brief Description of Service**
16.	Design	Approve and/or advise Factories for new or up grade of existing Fire Equipment & Fire Detection & Protection Systems.
17.	Supply	Fire Equipment, Fire Detection & Protection Systems & fire fighting clothing. i.e. put the Factory in direct contact with Fire equipment manufacturing companies.
18.	Install	Assist Factory in site supervision of main contractor or sub contractor for fire systems – test & commissioning.
19.	Project Management	Assist Factory in drafting tender documents for large Fire Detection & Protection Systems, both new builds & upgrades. Screen Fire Service & Supply Companies* **Note: *This is extremely important given that the Factories are being requested to upgrade and to avoid them spending their budget on systems & equipment that are incorrectly designed, incorrect for the given application, sub standard equipment etc. – there are numerous examples of this!**