

**Engineering Open House, 2007
General Safety Inspection Guide**

This is only a general guide; it is not intended to be all inclusive of potential safety/health hazards or issues.

Building or Demonstration/Project Name: _____

Inspector _____ **Phone** _____ **Date** _____

** If follow-up is needed or exhibitors are not qualified, note project/location and comment on page 3.*

FOLLOW- UP NEEDED: YES *

EXHIBITORS ARE QUALIFIED: NO*

Please circle ONLY deficient numbers; include comments/identified hazards on page 3. Thank you!

GENERAL –Pyrotechnics/ Fire/Life Safety

1. Location is appropriate per guidelines.
2. Emergency phone numbers are posted near all phones and all potentially hazardous demonstrations/projects.
3. Fire protection equipment/fire extinguishers are appropriate for the hazard(s) and the accesses to fire equipment/fire extinguishers are unobstructed.
4. Functioning of fire protection equipment is not impaired.
5. Exits are clearly visible.
6. Access to exits is unobstructed.
7. A floor plan with exits marked is posted; the location of exits will be announced prior to each demonstration/project as appropriate.
8. Spectators will be kept at least 15 feet from flame producing (larger scale) or pyrotechnic devices; shields, barriers or 3-foot clearance is provided for candles, matches, Bunsen burners, etc.
9. Flame producing fuels and or pyrotechnic devices are stored in an approved manner.
10. Quantities of hazardous materials are limited to that necessary for one day of demonstrations/projects. (Quantities/demo X number of demo's/day = estimated quantities needed/day)
11. Adequate ventilation is provided.
12. Adequate numbers of appropriate fire extinguishers are present.
13. Interior hangings and decorations in proximity to demonstrations involving flame production or use of pyrotechnics are noncombustible.
14. Overflow seating is not permitted. (No additional furniture brought into rooms.)

ELECTRICAL

15. Electrical cords and equipment are in good condition.
16. Electrical cords are properly secured, grounded and located where they will not be walked on or become a tripping hazard.
17. A 3-foot clearance is maintained in front of electrical panel boxes.
18. No heating appliances are close to combustibles.
19. Safe distance (10 feet), barricades or attendants, and signs are used for electrical hazards, ≤ 50 kV.
20. Energized equipment is deenergized/safeguarded when not supervised.
21. Portable ladders are non conductive; no conductive apparel worn; no conductive equipment within close proximity of energized equipment.
22. For high voltage/potential arc blast, personal protective equipment (face shield, hardhat, gloves, insulated rescue hook, coat) appropriate for the hazards and meets the ANSI standards is used

HOUSEKEEPING

23. Exhibit and passageways are neat, orderly, free of tripping/fall hazards and fire hazards from wastes/storage of combustibles, etc.

WALKING/WORKING SURFACES (General)

24. Floors are not overloaded.
25. Platforms > 4 feet above the floor have standard railing (top rail, midrails and toeboard for materials).

PERSONAL PROTECTIVE EQUIPMENT (PPE) ~ for head, eye/face, hands/arms, feet, etc.

26. PPE is appropriate for the hazard and potential injury.
27. Defective equipment is removed from service.

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FALL PROTECTION

28. Unprotected sides/edges \geq 6 feet above the lower level are protected by a guardrail system, safety net or personal fall arrest system.

NOISE

29. Noise is less than 90 decibels. (*Rule of Thumb: No difficulty in hearing conversation a thumb's distance, arm length, away.*)

CHEMICAL HAZARDS ~ Review Chemical Project Application Questionnaire

30. Material Safety Data Sheets for chemicals are available.
31. Laboratory Chemical Hoods are used for exhibits with the potential to produce harmful gases.
32. Safety equipment is used for the manipulation of any potentially dangerous chemicals.
33. Safety glasses or goggles are worn by all demonstrators of chemical reactions.
34. Visitors are protected from spills, reactions, leaks, etc.
35. A spill kit is readily available in the event of spill.

CRYOGENIC LIQUIDS

36. PPE (faceshield, impervious gloves, slacks, and long sleeves) is worn by those working with cryogenic liquids.
37. Containment is appropriate for use in cold temperatures and has adequate pressure relief.
38. Cryogenic liquid is in use in a well ventilated space.

COMPRESSED GAS CYLINDERS

39. Cylinders are marked with contents of the cylinder.
40. If in transport, cylinders are strapped into a cylinder cart; if in use, cylinders are strapped upright/secured to a stationary object to prevent falling over or damage.
41. Cylinders are away from heat or ignition sources; if in use, they are in adequately ventilated space.

MACHINE GUARDING

42. Point of operation, ingoing nip points, rotating parts/shafts, pulleys, gears, flying chips and sparks are guarded.
43. Machines designed for a fixed location are securely anchored to prevent walking or moving.
44. Pneumatic power tools are secured to the hose or whip by a positive means to prevent the tool from becoming accidentally disconnected.
45. No explosive- actuated fastening tools are used.

LASERS

46. The required direct supervision and instruction of someone experienced in the use of lasers is apparent.
47. Lasers are not to be pointed at any persons.
48. Warning signs are posted around exhibits involving radiation

WELDING, CUTTING, BRAZING (General)

49. Performance is in a safe place, free of combustibles or use guards to contain heat sparks, slag.
50. Fire extinguishers are immediately available.
51. Fire watchers are used in locations where other than a minor fire might develop, i.e. < 35 feet or easily ignitable combustibles >35 feet.

