

7 Building Inspection Office Review Triggers

The triggers below are intended for quick reference. Modifications to science or experimental equipment, devices, or systems do not require Building Inspection Office (BIO) review and authorization, except that attachment/support and interface of the equipment and devices to building structures and building systems. For additional guidance, see the [BIO Project Review and Authorization Manual](#) (SLAC-I-730-2A24Z-001-R018) and/or contact BIO (ext. 4113).

Two Definitions from the BIO Project Review and Authorization Manual that apply to the BIO Triggers listed below.

5.1.3 Emergency Repairs. Where equipment replacements and repairs must be performed in an emergency situation, BIO shall be notified by the next working day, and a PRS submittal shall be provided at the earliest reasonable opportunity.

5.1.4 Repairs. Application or notice to BIO is not required for ordinary repairs to equipment, replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.

However, this exemption shall not include the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or load-bearing support, the removal or change of any required means of egress, rearrangement of parts of a structure affecting the egress requirements.

nor shall ordinary repairs include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work.

Any work which adds, redistributes, alters, induces, increases or combines any loads or forces to a building, structure, appurtenance, equipment, floor, roof, ceiling, wall, slope or embankment shall require BIO review

General Aspects of a Project That Trigger BIO Review

1. Construction, enlargement, alteration, moving, or demolishing a building or structure
2. Any element under review that has a known code violation (as an existing condition)
3. A change of character, use or occupancy of a space, building, parking lot, road, or structure
4. Tents, temporary structures, and membrane structures, including construction trailers and fences
5. Excavations, grading, and fill, or other earth moving activities
6. Partitions greater than 5'9"
7. Installations or modifications of science and experimental equipment as follows: BIO review and authorization required for the attachment/support/interface of the equipment and devices to building structures and building systems
8. Installation or alteration of a chemical or biological laboratory
9. Installation, alteration, repair, or replacement of pressure vessel, cryogenic, vacuum, or compressed gas systems
10. Initial installation or modification of piping or tubing used to deliver highly toxic or reactive (for example, unstable, pyrophoric, water reactive) fluids (gaseous or liquid) from a source container to the

process/research equipment.

11. Depending on the specific hazards, ESH may request that a formal process hazard analysis be conducted on the design of the system before acquisition and installation of the hardware. During the initial installation, a procedure must be developed with BIO input for further modification and testing (for example, pressure testing, leak checking). Subsequent modifications falling within the scope of this procedure may be carried out and documented by the line organization without further review by ESH. Installation, alteration, repair, relocation, or replacement of a hazardous materials storage, delivery, or use system
12. Work in or adjacent to a vehicular way

Structural Aspects of a Project That Trigger BIO Review

13. Installation, alteration, repair, or replacement of a structural element; any change that would affect loading or seismic resistance of a structure
14. Equipment/objects weighing 400 lbs or more will require engineered seismic restraints and BIO review
15. Equipment/objects less than 400 lbs attached to the walls, ceilings, or floors may require seismic restraints and therefore BIO review. Please contact BIO for determination.

Electrical Aspects of a Project That Trigger BIO Review

16. Installation, alteration, relocation, or replacement of conventional facilities electrical distribution or utilization equipment (except cord-and-plug connected equipment)
17. Any change that would affect the electrical loading of the conventional facilities power distribution system

Applicability: applies to conventional facilities electrical distribution systems (premises wiring), both permanent and temporary, or standalone electrical distribution systems powered by a generator, UPS, photovoltaics, or similar (includes construction temporary power)

Exception: installation or relocation of 120/208 VAC receptacle outlets and replacement of like-for-like utilization devices such as light fixtures and receptacles by F&O Electricians does not require BIO review.

Guideline for Control of Hazardous Energy in Out of Service Equipment.

18. Separate BIO Authorization is required as it pertains to the conditions of Out of Service Equipment left in a Disconnected State or a Mitigation of Hazardous Energy State. This section applies to all hazardous energy systems including electrical, pressure systems, compressed air, process water systems, gas cylinder systems, cryogenic systems, etc.

Mechanical and Plumbing Systems (Piping, HVAC, Duct Work) Aspects of a Project That Trigger BIO Review

19. Installation, alteration, repair, relocation, or replacement of a mechanical element; any change that would affect loads on a system
20. Any facilities equipment changes affecting quantities of air flow or a reduction in outside air
21. Repair or alteration of facilities piping, (e.g. steam, air, water, sewer, storm, process piping, process effluent, etc.)

Exception: Equipment maintenance or replacement of like-for-like materials by F&O Mechanics not exceeding \$1000 materials and labor does not require BIO review.

Architectural Barriers Act, Americans with Disabilities Act, CBC Chapter 11B Aspects That Trigger BIO Review

22. New, Additions to or alteration of any accessible element, including paths of travel, ramps, walkways, doors, restroom facilities, exit paths, parking lots, sidewalks, stairs, required signage, elevators, break rooms, kitchenettes, or new elements. **Contact BIO for more Specifics.**

Fire Aspects of a Project That Trigger BIO Review

23. Installation, alteration, repair, relocation, or replacement of Fire-resisting building elements (fire barrier walls) Egress system components (aisle ways, corridors, exit doors, exit signs, emergency lighting, etc.) ▪ Fire suppression, alarm, detection or reporting systems.

24. Increases in fire loading beyond that typical for the existing building, structure, or area in question.

25. Changes to fire department access (examples include narrowing of roads; alteration of trestles; installation of bollards; placement of anything that may block fixed fire response equipment such as fire hydrants, sprinkler risers or fire department connections).

Exception: equipment maintenance or replacement of like-for-like materials by SLAC Fire Techs not exceeding \$1000 materials and labor does not require BIO review.

Environmental Protection Aspects of a Project That Trigger BIO Review – Contact Environmental Protection for other triggers.

26. Generation of significant and large quantities of hazardous waste that will have an immediate effect on fees/taxes imposed by the state and county and/or impact Waste Management labor and resources (such as waste drums and bins) or requires special disposal/treatment.

27. Installation of equipment/containers that hold 55 gallons or more of oil.

28. Removal of asbestos-containing material, and/or working where asbestos-containing material is, or may become, friable

29. Use of hazardous materials on a project during construction or operation

30. Proposed operations/experiments that may result in airborne emissions and/or liquid effluents

31. Operation of portable equipment powered by fossil fuel (for example, a standby generator)

Radiation Protection Aspects of a project that trigger BIO Review- Contact Radiation protection for Other radiation triggers.

32. Use of Nuclear Gauges for compaction testing

33. Working in or around Cryogenic Modules

34. Working in or around controlled areas radiologically controlled Areas or Radiological Area /Radiation, High Radiation or contaminated Radiation

35. Working On or with Radioactive materials including Radiation Sources or Naturally occurring radiation

materials such as Thorium welding rods or Sand Blasting Media.

Site Security Aspects of a project that trigger BIO Review- Contact Security for Other Triggers.

- 36. Road Closures or Work within Roadway
- 37. Access Routes both in and out of SLAC
- 38. Locks, Card Key Systems, Security Cameras

Industrial Hygiene Aspects of a project that trigger BIO review.

- 39. Safety Showers
- 40. ODM Systems
- 41. Asbestos walls, roofs, pipe insulation
- 42. Lead containing paint, solder, windows
- 43. Silica controlled work
- 44. Gas Cabinets/ Gas Workstations
- 45. Lab Enclosures or Glove Boxes

Waste Management Aspects of a project that trigger BIO review.

- 46. Waste Management Plan
- 47. Hazardous Waste and Waste Disposal
- 48. Chemical Waste Disposal
- 48. Other Special Disposal

Pressure Systems Conventional and Scientific Aspects of a project that trigger BIO review

- 49. Pressure system test plan(s)
- 50. Pressure system inspection testing