NATIONAL ACCELERATOR LABORATORY

ENVIRONMENT, SAFETY & HEALTH DIVISION

Chapter 1: General Policy and Responsibilities

ESH Project Review Procedure

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1 Purpose

The purpose of this procedure is to ensure that the environment, safety, and health (ESH) aspects of project activities are adequately identified and mitigated before projects are authorized and released. The goals of this procedure are to

1. Establish a uniform process of project reviews
2. Establish consistent thresholds for a graded approach
3. Clarify and streamline the structure and process of reviews
4. Provide a framework that fosters timely and adequate planning and support to project sponsors

This procedure covers the three main elements of the review process:

1. Threshold and applicability determination
2. Experimental project review
3. Conventional project review

This procedure applies to *line management*, *responsible persons*, *ESH coordinators*, and reviewers involved in the proposal, review, and approval of project (experimental and conventional) activities at SLAC.

2 Roles and Responsibilities

2.1 Line Management

- Supports the implementation of this procedure throughout the organization
- Ensures that adequate resources are allocated to supporting projects
- Sets the tone to enable/promote self-policing of process/voluntary compliance/self-governance

2.2 Responsible Person

- Develops a comprehensive scope of work
- For construction projects, teams with ESH and Facilities Construction Management to perform a project risk analysis

- Teams with the ESH coordinator and other resources to perform an effective and accurate threshold review and applicability determination and to execute experimental and conventional project review processes, as appropriate
- Develops applicable submittals to review entities, for example, the Building Inspection Office (BIO)
- Teams with engineers to ensure conduct of engineering requirements are met
- Ensures adequate staffing and timelines
- Fosters and ensures adequate communication to stakeholders
- Is responsible for the overall ESH performance of the project

2.3 ESH Coordinator

- Provides input to review statement of work (SOW) against the lower limit thresholds
- Identifies, solicits input from, and liaises with subject matter experts (SME) who can assist in the threshold review
- Teams with the responsible person (the principal investigator [PI] / project manager [PM]) to
  - Perform formal review of the activity/project in the context of the broad thresholds
  - Document the rationale for designation as a work activity or a project activity, including hazard identification/analysis
  - Assist in the execution of experimental and conventional project review processes, as appropriate

2.4 Reviewer

The following responsibilities apply to everyone involved in project review:

- Provides thorough and timely review guidance to the project team
- Communicates early and often with the project team to ensure comments are addressed both in letter and intent, keeping the “One Lab” perspective in mind

2.5 Chief Safety Officer, Associate Laboratory Director, Laboratory Director

- Hears appeals for unresolved issues with experimental review. Final appeal is to the SLAC laboratory director

3 Procedures

The three elements of the process are summarized below; the steps are illustrated in the following process flow charts.

3.1 Threshold Review and Applicability Determination

The *responsible person* (for example, principal investigator, researcher, or project manager) and ESH coordinators (with input from subject matter experts as required) will determine whether a proposed activity/experiment can be categorized as a *work activity* or a *project activity* that needs to be reviewed through one/both of the experimental project review and conventional project review processes. All steps reside within the requester's line organization and include two levels of thresholds: lower limit thresholds and broad thresholds. The rationale for the eventual determination is documented via the threshold review form and retained by the responsible person. An ESH Threshold Review Form must be completed if the activity exceeds any of the lower limit thresholds.

The lower limit thresholds help determine if the proposed activity is within the "standard model" for the researcher/principal investigator and immediate team, while the broad thresholds help to determine whether all ESH aspects of the proposed activity can/will be adequately addressed within the requester's line organization. (See Table 1 for thresholds.)

The responsible person is responsible for safety of the work being performed in accordance with integrated safety management guiding principles.

Table 1 Lower Limit and Broad Thresholds

Lower limit thresholds	1. Researcher/ requester has experience with the activity and is comfortable with the perceived risk: ▪ Recognized hazard(s) and existing mitigations ▪ Limited scope ▪ Applicable SOP(s): activity within the scope of existing SOP(s) ▪ No deviation from the standard model 2. Not facility related – not attached to the building, etc. 3. No new and/or unusual equipment involved 4. Does not involve change/modification of or impact to a shared utility or shared area 5. Supervisor concurs that the proposed activity is within the standard model for the individual
Broad thresholds	1. Some or all of the activity's characteristics having possible safety consequences are new to the responsible organization 2. The proposed activity represents a significant change of scope of the existing operation 3. The activity introduces hazards not previously analyzed and where there are no institutional protocols and procedures to mitigate them (e.g., hazards not addressed in the SLAC ESH Manual) 4. The proposed activity represents a significant change in the hazard of operation 5. The activity is sufficiently complex that a review would be prudent 6. The proposed activity triggers Building Inspection Office (BIO) requirements or is required by DOE order (e.g., DOE O 423) or Stanford institutional review boards

3.2 Experimental Project Review Process

All equipment and operational aspects of proposed experimental projects are to be reviewed through this process. The key organizational stakeholders include the requester's line organization, the ESH coordinator, safety officers and program managers, and/or other subject matter experts. There are two areas that need to be considered by the line organization:

1. Experiments that meet the lower limit thresholds and need to be discussed with the ESH coordinator
2. Experiments that involve working with various groups, for example coordinating among various laboratory groups for logistics, starting an already approved project in a new laboratory, et cetera. In such situations, line organizations need to appoint an experimental project manager who is responsible for coordination between the groups and to ensure that the project moves along smoothly.

The process includes specific provisions for the line organization to review and approve scope changes driven by reviewer comments and includes an appeal mechanism – to the SLAC chief safety officer and the SLAC laboratory director. Specific "go forward" authorization/approval is provided via an acceptance/commissioning step. The threshold review form provides summary level documentation into this process.

3.2.1 Biohazardous Materials and Animal Research

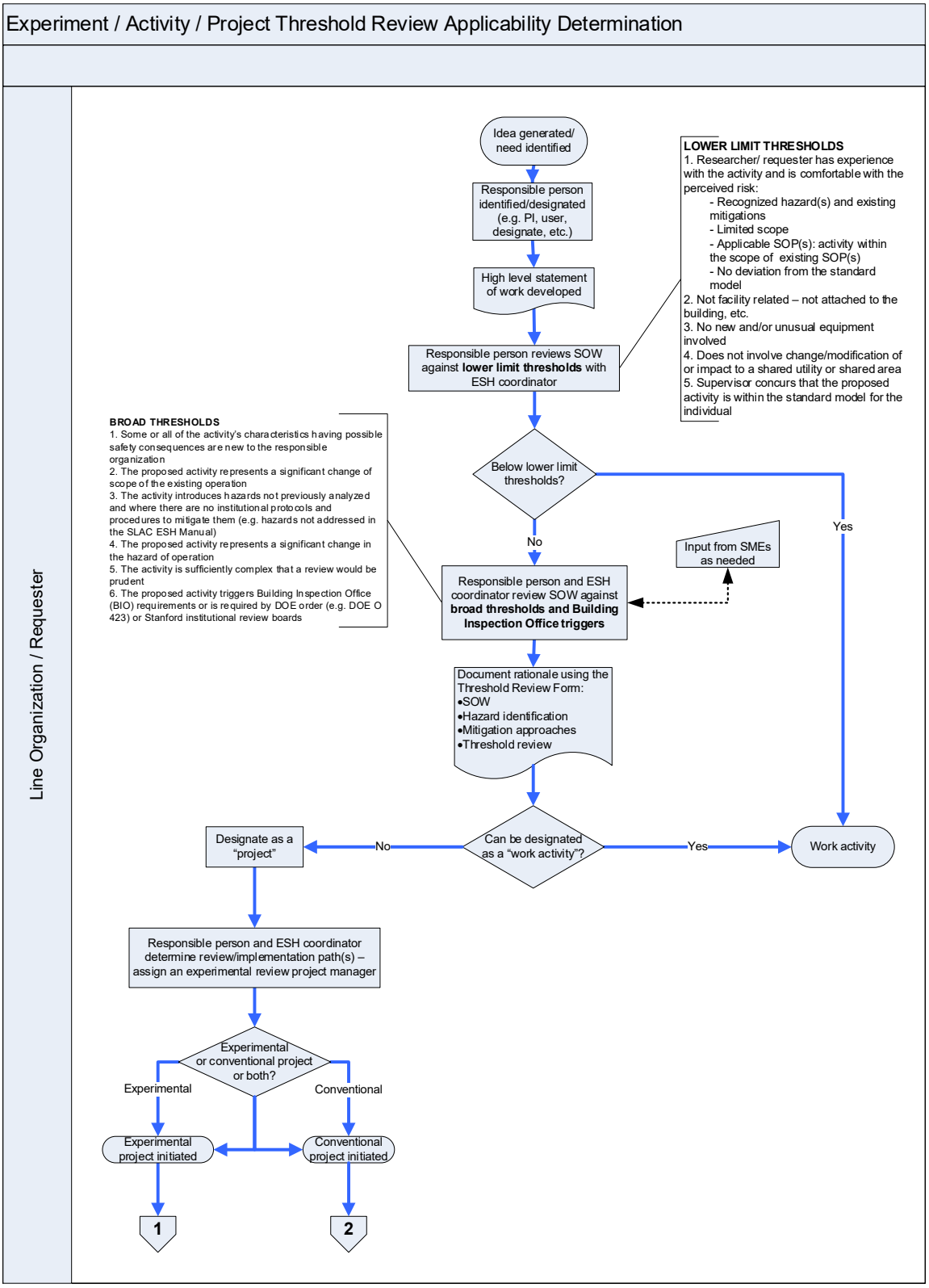
All work at SLAC involving potentially biohazardous materials or animal research must be conducted under the policies and procedures set forth by Stanford University. Work covered under the biosafety requirements must go through the university's Administrative Panel on Biosafety (APB). (See Chapter 34, "Biosafety".)

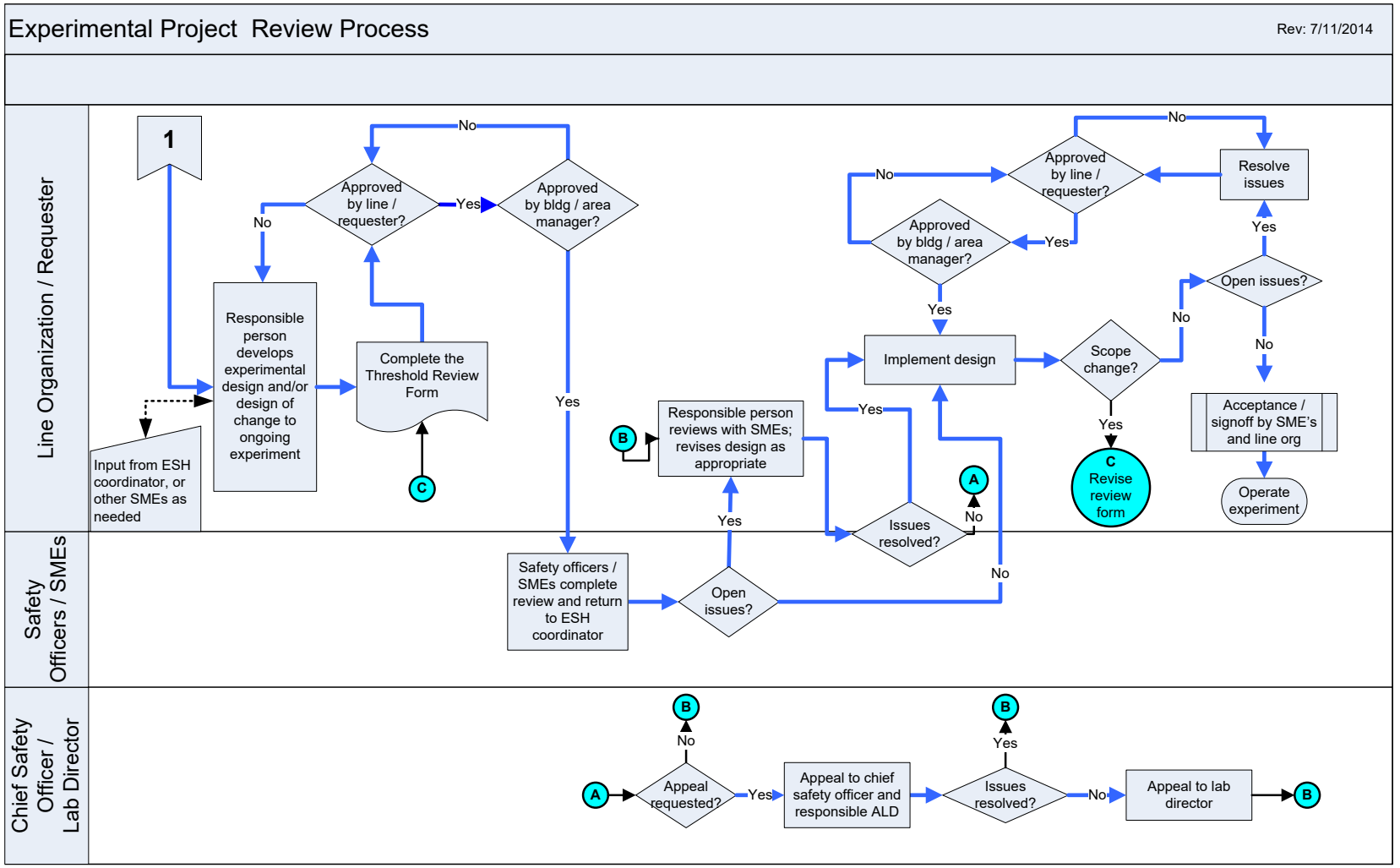
Any work involving laboratory animals must go through the university's Administrative Panel on Laboratory Animal Care (APLAC). Approval must also be obtained from the SLAC chief research officer (or equivalent position) and the DOE SLAC Site Office (SSO).

Principal investigators planning on such work must first meet with their directorate ESH coordinator and the SLAC biosafety program manager to review these requirements and develop the necessary submittals for review by the appropriate university panel.

3.3 Conventional Project Review Process

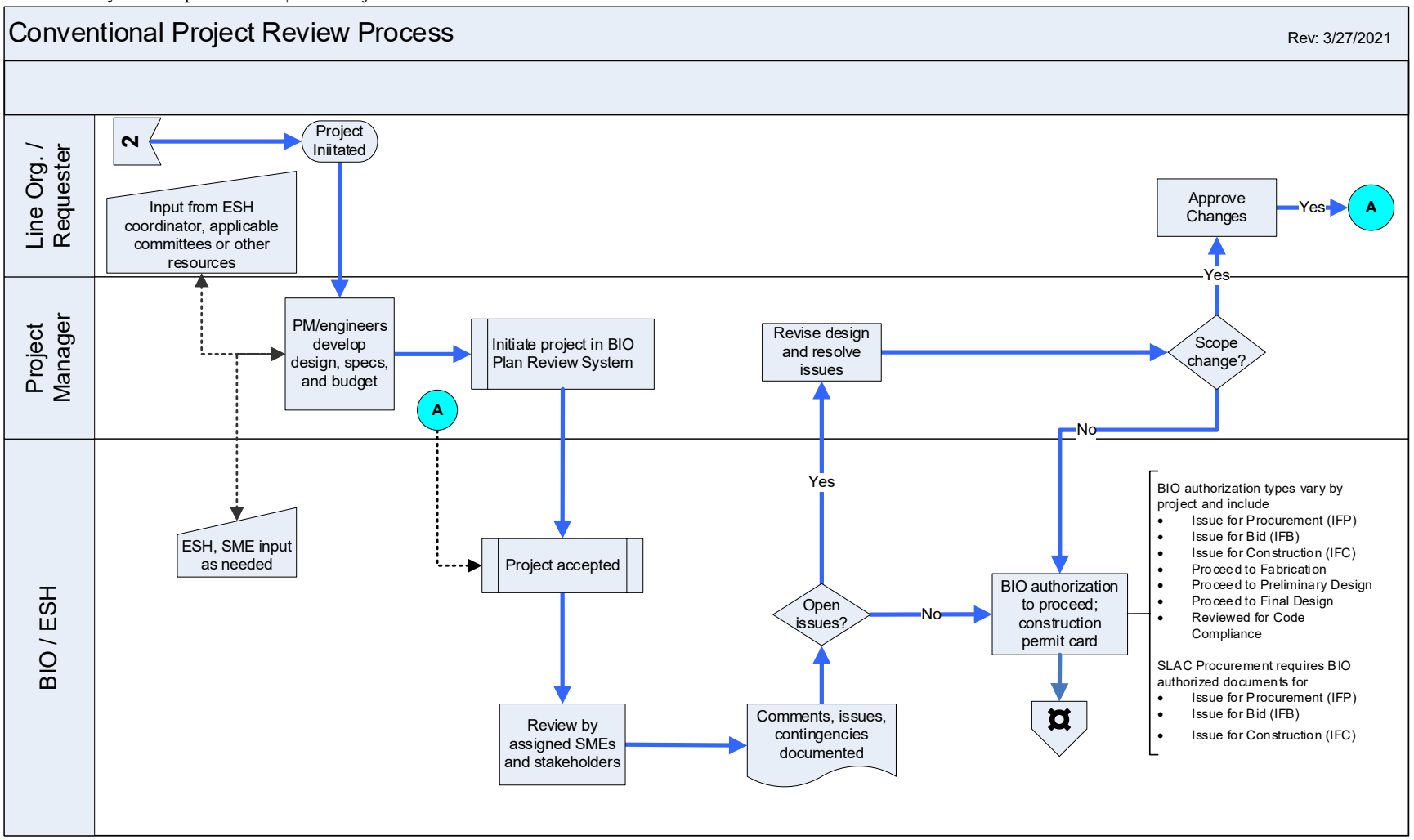
All equipment and operational aspects of proposed conventional projects that trigger external mandates (for example, Building Inspection Office requirements) and/or impact a shared area or resource are reviewed through this process. The key organizational stakeholders include the project manager, requester's line organization, Building Inspection Office (BIO), Environment, Safety, and Health (ESH), Purchasing, Facilities, and subcontractors. The BIO Plan Review System is the on-line tool used to manage this business process.

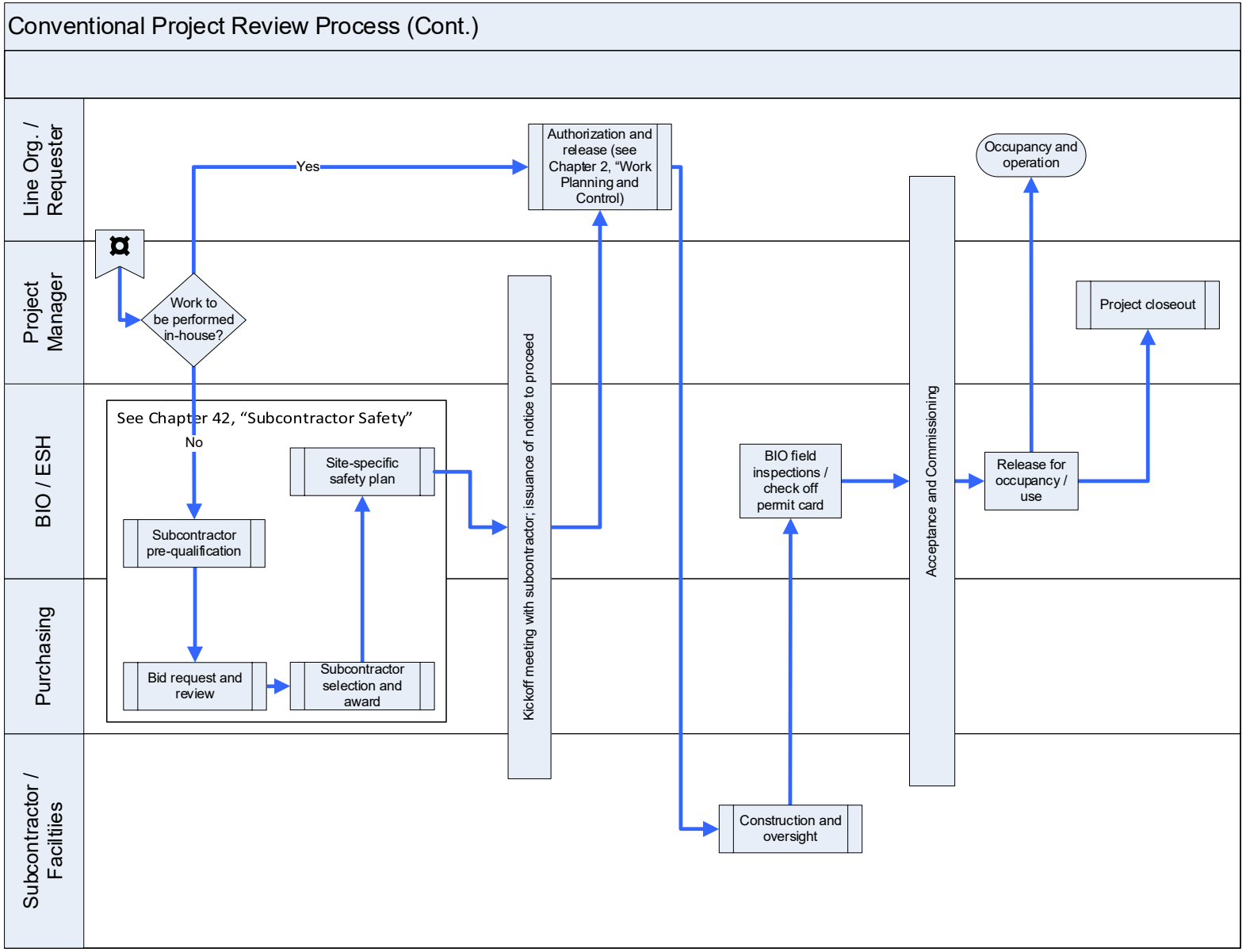

Experiment / Activity / Project Threshold Review Applicability Determination
Line Organization / Requester
Idea generated/ need identified
Responsible person identified/designated (e.g. PI, user, designate, etc.)
High level statement of work developed
Responsible person reviews SOW against lower limit thresholds with ESH coordinator
LOWER LIMIT THRESHOLDS
1. Researcher/ requester has experience with the activity and is comfortable with the perceived risk:
- Recognized hazard(s) and existing mitigations
- Limited scope
- Applicable SOP(s): activity within the scope of existing SOP(s)
- No deviation from the standard model
2. Not facility related – not attached to the building, etc.
3. No new and/or unusual equipment involved
4. Does not involve change/modification of or impact to a shared utility or shared area
5. Supervisor concurs that the proposed activity is within the standard model for the individual
BROAD THRESHOLDS
1. Some or all of the activity's characteristics having possible safety consequences are new to the responsible organization
2. The proposed activity represents a significant change of scope of the existing operation
3. The activity introduces hazards not previously analyzed and where there are no institutional protocols and procedures to mitigate them (e.g. hazards not addressed in the SLAC ESH Manual)
4. The proposed activity represents a significant change in the hazard of operation
5. The activity is sufficiently complex that a review would be prudent
6. The proposed activity triggers Building Inspection Office (BIO) requirements or is required by DOE order (e.g. DOE O 423) or Stanford institutional review boards
Below lower limit thresholds?
Yes
No
Input from SMEs as needed
Responsible person and ESH coordinator review SOW against broad thresholds and Building Inspection Office triggers
Document rationale using the Threshold Review Form:
•SOW
•Hazard identification
•Mitigation approaches
•Threshold review
Can be designated as a "work activity"?
No
Yes
Work activity
Designate as a "project"
Responsible person and ESH coordinator determine review/implementation path(s) – assign an experimental review project manager
Experimental or conventional project or both?
Experimental
Conventional
Experimental project initiated
Conventional project initiated
1
2



* For work activities above the lower threshold, the following project requirements must be addressed:

- Designation of a project manager by line management
- Project manager, together with directorate ESH coordinator and other SMEs as needed, to determine what project reviews are needed. The directorate ESH coordinator will make sure that the line understands all of the risks associated with the project and determine which ESH program managers need to review the project.
- Project reviews may include requirements/specification review, engineering review, and committee reviews.
- Requirements/specification must be documented. Existing SLAC documentation methods are acceptable for gathering this information.
- Project completion document. This may be satisfied by an acceptance/certification test or by an approval-to-operate form.


Conventional Project Review Process
Rev: 3/27/2021
Line Org. / Requester
Project Manager
BIO / ESH
2
Project Initiated
Input from ESH coordinator, applicable committees or other resources
PM/engineers develop design, specs, and budget
Initiate project in BIO Plan Review System
A
ESH, SME input as needed
Project accepted
Review by assigned SMEs and stakeholders
Comments, issues, contingencies documented
Open issues?
Yes
No
Revise design and resolve issues
Scope change?
Yes
No
Approve Changes
Yes
A
BIO authorization to proceed; construction permit card
BIO authorization types vary by project and include
Issue for Procurement (IFP)
Issue for Bid (IFB)
Issue for Construction (IFC)
Proceed to Fabrication
Proceed to Preliminary Design
Proceed to Final Design
Reviewed for Code Compliance
SLAC Procurement requires BIO authorized documents for
Issue for Procurement (IFP)
Issue for Bid (IFB)
Issue for Construction (IFC)


Conventional Project Review Process (Cont.)
Line Org. / Requester
Project Manager
BIO / ESH
Purchasing
Subcontractor / Facilities
Yes
Authorization and release (see Chapter 2, "Work Planning and Control)
Occupancy and operation
Work to be performed in-house?
Project closeout
See Chapter 42, "Subcontractor Safety"
No
Site-specific safety plan
Subcontractor pre-qualification
Kickoff meeting with subcontractor; issuance of notice to proceed
BIO field inspections / check off permit card
Acceptance and Commissioning
Release for occupancy / use
Bid request and review
Subcontractor selection and award
Construction and oversight

4 Forms

The following forms and systems are required by this procedure:

- General Policy and Responsibilities: ESH Threshold Review Form (SLAC-I-720-0A24J-001). Form for documenting whether work exceeds lower limit and broad thresholds and requires ESH project review
- BIO Plan Review System. System for performing and documenting conventional project reviews

5 Recordkeeping

The following recordkeeping requirements apply for this procedure:

- The responsible person must retain documentation and submittals.

6 References

SLAC Environment, Safety, and Health Manual (SLAC-I-720-0A29Z-001)

- Chapter 1, "General Policy and Responsibilities"
  - General Policy and Responsibilities: Hazard Control Selection and Management Requirements (SLAC-I-720-0A24S-001)
- Chapter 34, "Biosafety"

Other SLAC Documents

- SLAC Conduct of Engineering Policy (ENG-2018-018)
- BIO Project Review and Authorization Manual (SLAC-I-730-2A24Z-001)

Other Documents

- Stanford University, Research Compliance Office, Administrative Panel on Laboratory Animal Care (APLAC)