

General Instructions, Definitions, and Detailed Instructions
(do not print with form; not part of record)**General Instructions**

IBC Program work (ESM calls all work "projects") must receive preliminary determination from the Facility Design Authority Representative (FDAR).

- A. IBC/IEBC scope: First, determine whether proposed work is subject to LANL's program within the rules and examples in ESM Ch. 16 Tables IBC-GEN-1 & 2.
 - 1. If FDAR determines not in IBC Program, no documentation is required; project may exit chapter/PPD.
 - 2. If the FDAR has any uncertainty regarding this decision, they should consult the Chapter 16 POC.
- B. If in scope, work classification(s) based on this form's definitions in its instructions. E.g., Repair, Alteration Level 1, Alt Level 2A, Alt Level 2B, Alt Level 3, Use or Occupancy Change, Addition, Historic, Relocation, Demolition, and/or New Building. If only Repair, PPD form is not required.
- C. Once PPD is issued, its determinations should be included as **preliminary** design inputs somewhere in the statement of work for the design, noting that the design agency is responsible for proposing more appropriate classifications as soon as they become evident.
- D. Completed forms are QA records. A copy of the form should be kept in the project/task file. A copy shall be kept with the DCF files, if DCF is present. Also, send completed PPD form to project-dcrm@lanl.gov for EDRMS, especially if not in DCF files. File should be prepared as follows:
 - 1. Obtain a Preliminary Project Determination (PPD) document number from the CoE [site](#).
 - 2. Prepare the PPD in Microsoft Word.
 - 3. It is preferred that the Word file is converted to PDF and signed electronically. Alternatively, print the form, get manual signatures and scan to a PDF file.
 - 4. Use the document number for the Word and PDF file names: PPD-TA-BLDG-XXXX.docx and PPD-TA-BLDG-XXXX.pdf.

Filing in FOD SharePoint in addition to the above is optional (at FDAR discretion). To do so:

- 1. Use the SharePoint sites for the FODs (e.g., ES-55, ES-LFO, etc.). In each of the sites there is a library named "Preliminary Project Determination."
- 2. Upload both files to the Preliminary Project Determination library for your organization.
- 3. Fill in the first 8 fields of attributes in the SP library: Type (filled automatically), Title, Name (filled automatically), Facility Name, Functional Organization, Doc Revision, and Date on Document.

These SharePoint sites are part of the ES-DO site collection. To find the site, go to "[ES Division Shared Information](#)" site listed under the "SharePoint Site" heading under Resources on the [ES Division Home Page](#). The FOD sites for which a user has access will appear on the navigation list across the top. If you need access, contact POC(s) shown on the website.

- E. **Change Control**: In addition to designer proposals noted above, Requester should submit a revised form if the scope increases or life safety improvements are descoped, or stated use changes. Requester should also submit a revised form if scope or use otherwise decreases such that classification(s) may have gone down. Revised determinations may also be made by LANL during design review as "C" comments (with a basis).
- F. Final determinations are documented by the final, permitted design.

LANL IEBC-related Definitions

Repair

Definition: The restoration to good or sound condition of any part of an existing building for the purpose of its maintenance. Repair includes the patching or restoration or replacement of damaged materials, elements, equipment or fixtures for the purpose of maintaining such components in good or sound condition with respect to existing loads or performance requirements. Limited to work on the item and does not include complete or substantial replacement (a majority of the original remains) or other new work. Repairs 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, or the removal or change of any required means of egress or 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 affecting public health or general safety. Must follow IEBC Ch. 6.

Work on non-damaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall generally not be subject to the other classification requirements (must describe in SOW; subject to LBO concurrence).

Level 1 alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose. Most true like-for-like or replacement-in-kind is this category. Must follow IEBC Ch. 7.

Level 2A alterations: System reconfiguration, extension, additional equipment installation, or removal (except when 2B below). **Level 2B** includes possible egress aspects (workspace reconfiguration or door or window addition or elimination) and/or life safety or related systems affected. Must follow IEBC Ch. 7 and 8.

Level 3 alterations apply when a major building renovation or reconfiguration work area exceeds 50 percent of the aggregate area of the building. Must follow IEBC Ch. 7-9.

Work Area. That portion or portions of a building consisting of all altered spaces as indicated on the construction documents. Work area excludes other portions of the building where incidental work entailed by the intended work must be performed and portions of the building where work not initially intended by the owner is specifically required by code. Applies to altered spaces, not systems.

Change of Occupancy. A change in the use of the building or a portion of a building. A change of occupancy shall include any change of occupancy classification, any change from one group to another group within an

occupancy classification or any change in use within a group for a specific occupancy classification. . E.g., adding people or hazardous chemicals must be analyzed for impact. Must follow IEBC Ch.10.

Addition. An extension or increase in floor area, number of stories, or height of a building or structure. Must follow IEBC Ch.11.

Historic Building. (LANL has a few, e.g., V-Site). Any building or structure that is listed in the State or National Register of Historic Places (ROHP); designated as a historic property under local or state designation law or survey; certified as a contributing resource within a National Register listed or locally designated historic district; or with an opinion or certification that the property is eligible to be listed on the National or State ROHP either individually or as a contributing building to a historic district by the State Historic Preservation Officer or the Keeper of the National ROHP. Must follow IEBC Ch.12.

Relocated buildings provisions shall apply to relocated or moved buildings, including trailers.

Technically Infeasible. An *alteration* of a building or a facility that has little likelihood of being accomplished because the existing structural conditions require the removal or *alteration* of a load-bearing member that is an essential part of the structural frame or because other existing physical or site constraints prohibit modification or *addition* of elements, spaces, or features that are in full and strict compliance with the minimum requirements for new construction and that are necessary to provide accessibility.

NOTE: In addition to work triggered by IEBC categories, the Int'l **Energy Conservation** Code mandates envelope upgrades at times (e.g., change of occupancy, conditioning unconditioned space), as does IEBC Ch 4. See IECC C501 and ESM Ch. 14.

Step-by-Step Instructions

1. Enter Task/Project Name/Location.
2. Enter Operating System ID from ESM Ch 1 Section 210 listing. (becomes EDRMS metadata)
3. Enter System ID from ESM Ch 1 Section 210 listing.
4. Enter burdened estimated cost of work, both design and total project cost, to best approximation.
5. Enter Statement of Work and proposed IEBC Ch. 4 Work Classification(s). Check all proposed work classes that apply; if multiple, tie to the subtasks. Describe the proposed work with sufficient detail to allow proper classification per the choices given. LANLized definitions are in this form's instructions. Subtasks may have different classifications (e.g., may be altering one system as Level 1 and another as Level 2).
 - a. Seismic: For IEBC Alt Level 2 and 3 adding additional loads on seismic-force-resisting SSCs, include enough detail that a judgment can be made on need for a feasibility study, or arrange for study prior to submission of this form.¹
6. SSI: Indicate tasks that may trigger the need for a Statement of Special Inspections (IBC 1704.3)
7. Drawing(s) planned: Indicate plans or FDAR preference for design outputs, whether sketches or drawings per CAD Standards Manual (Note, CSM may have limits on use of sketches).
8. Risk level per IBC-GEN Graded Approach Table (Highest [includes 2B], Moderate [2A], or Lowest [Level 1 Alt, low-risk demolition or Repair])
9. Hazardous materials in occupancy: If yes, describe existing inventory and effect of project, or refer to and attach Form 2, HazMat Determination/Chemical Inventory. Strongly suggest getting architectural SME and/or Fire Protection help on determinations here.
10. Enter proposed IBC Ch. 3 Use and Occupancy Class(es) with rationale if potentially changing from design basis or current levels, or if new building. If clearly no change, check N/A. Strongly suggest getting architectural SME and/or Fire Protection help on determinations here.
11. Existing facility mods: Indicate if work qualifies for code of record design per criteria in IBC-GEN Att. B, LANL Existing Building Code. Some activities are preauthorized to use COR, others require LBO determination. Enter COR date, which is when existing SSCs were designed. See

ARCHIBUS instructions below to obtain building date; SSCs in/on a building will have same COR date unless updated later in time.

12. Seismic: For Alt Level 2 and 3 adding additional loads on seismic-force-resisting SSCs (described in Block 5), determine whether a feasibility study must be performed.
13. NPH: PC, RC, or NDC/LS category: See instructions below.
14. PRID—Integrated Review Tool (IRT) and Permits and Requirements Identification (PRID). See [P351](#) for when required. E.g.:
 - Relocation or expansion of existing activities;
 - New, expanded, or relocated Research and Development (R&D) activities;
 - New facility construction;
 - Facility upgrades and/or modifications;
 - Expense funded construction activities;
 - Facility shutdown, decommissioning, demolition and/or decontamination;
 - Environmental clean-up, and/or restoration; and,
 - Outdoor activities that will result in a change to land use (i.e., addition or expansion of laydown or staging areas, parking lots, roadways, installation or relocation of structures [trailers, transportables, cellular towers], or significant modification to the natural terrain or ecosystems)
15. Sustainable design review per ESM Ch. 14: Refer to criteria in ESM (and possible future project engineer guide posted there). As an example, "like-for-like" and "replacement-in-kind" HVAC replacement must meet IECC or ASHRAE 90.1 efficiencies, sometimes BAS connectivity.
16. Commissioning: Indicate if Cx required per ESM Ch 15 criteria (including FDAR desire).
17. Existing nuclear facility "major modification": Indicate if yes. Extremely rare at LANL. **Major mod:** Change to a nuclear facility that substantially changes the existing safety basis [adaptation of DOE-STD-1189-2008]. Determination is made through a checklist (see [SBP114-1](#), *Safety Basis Development for Projects, Att 1*). Major mods must meet DOE O 420.1C. Other mods may qualify for code of record design per Block 11.

Optional Comments/Determinations: Examples are key requirements triggered—accessibility per IEBC, lateral bracing per IBC 1613.1, R&D equipment

¹ For demand/capacity ratio, there's a 10%-latitude-exception for lateral-force-resisting systems with the 10%

latitude to be considered cumulatively over the life of the building; see IEBC-2015 807.5 Exception last sentence.

anchorage, seismic retrofit per ESM Ch 5/ICSSC [RP 8](#), etc.)

RP-8 (2.1) gist: Building shall be evaluated and any unacceptable risks posed by the building shall be mitigated when any of the following occur:

- a. A change in the building's function that results in an increase...in the building's level of use, importance, or occupancy;

- b. For SDC C buildings, project will significantly extend the building's useful life through alterations or deferred maintenance that total more than 50% of the replacement value of the building;
- c. For SDC D buildings, project would do so with alterations totalling more than 30% of the RPV.

LANL's ARCHIBUS has RPV values (see below)

Determining RC, NDC/LS, and/or PC category of a building from ARCHIBUS

These are natural-phenomena-hazard related design inputs

1. Go to <http://int.lanl.gov/services/facilities/fims.shtml>
2. Click on ARCHIBUS Web Central in lower right, then Space Planning & Management, then Space Inventory & Performance, then LANL Special Reports, then Define Seismic Data.
3. Type TA-BLDG: (i.e. _ _ - _ _ _) under Structure ID, then hit return.
4. You will see P_ (e.g., P1, P2) under Seismic Essential, which means the building structure is PC-(whatever the number is following "P"). Newer RC or NDC/LS data may also be there under DOE 1020 Standard heading and is preferred when present.

NOTES:

1. ESM Chapter 5 Section I includes crosswalks from PC-to-RC or NDC. Consult with FDAR to resolve any NPH determination issues or Structural POC.
2. The Performance Category (PC) of the building structure is not necessarily the same as the PC of the systems & components inside of it.
 - What appears in ARCHIBUS is JUST the PC for a given structure.
 - CMMS Screen D031 may have equipment PC data (field: "Seismic"). If not, ESM Chapter 5 Section I details how to determine SDCs for structures, systems & components (SSCs).